7-2021

Centropoly: The Structure of Educational Failures in the U.S.

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Centropoly:
The Structure of Educational Failures in the U.S.

A dissertation submitted in partial fulfillment
of the requirements for the degree of
Doctor of Philosophy in Education Policy

by

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July 2021
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Abstract

How did a country birthed in individual liberty and voluntary associations create just the opposite in its inflexible, layered, government-controlled public education system? Here, using public choice theory, I explain how near-sighted and unrelated reforms, often based in private motives, gave us what I call the public education *centropoly* – a hybrid government organization consisting of a set of monopolies layered beneath two additional government levels that especially fails disadvantaged students.

After defending the use of public choice theory (Chapter 1) and summarizing the U.S. public education system formation (Chapter 2), in Chapter 3 I examine the Elementary and Secondary Education Act of 1965 (ESEA) and subsequent reauthorizations, showing how external reforms intended to correct the system's educational failure of its disadvantaged students did little more than to expand and cement the centropoly. Chapter 3 contains a panel data, fixed effects empirical analysis of the associations between ESEA (and its various amendments) and staffing increases at the state and local (school district) levels between 1965 and 2004. I find that, of 13 amendment sets analyzed, 8 are associated with large and highly statistically significant staffing increases relative to staffing levels in 1965 when ESEA was originally adopted. I conclude the chapter with a brief summary of ESEA Title I effectiveness literature and analysis, illustrating that any improvements gained might be outweighed by the problems the ESEA reforms generated – including the staffing increases, which have helped to increase the educational bureaucracy.

Although previous research examines reasons why charter school presence differs across states, very little research analyzes the relationship of this difference to the power of the traditional public schools (TPSs) directly rather than indirectly as through union or partisan

strength. In Chapter 5, I hypothesize that the American TPS system itself is a predictor of opposition to charter schools. Relying largely on public choice theory, I first explain the incentives, power, and rigidity behind the TPS institutional network. I then apply this explanation to my hypothesis by employing a TPS power proxy –TPS staff size relative to adult (voting) population – as my variable of interest. Upon this foundation, I control for most characteristics shown in prior research to be associated with proportional charter school enrollment thereby deepening the understanding of how the TPS system works to prevent alternative learning opportunities for students who cannot afford to leave the TPS system. While noting certain caveats, I find a strong inverse association, providing evidence that the TPS institutional network defends itself against competition in Right-to-Work states.

In some states, charters must meet inflexible, standardized performance standards to survive. Again through the lens of public choice theory, in Chapter 6 we hypothesize that charters that were established by African Americans and those which serve more African American students are more likely to close, and that state-imposed standardized closure rules exacerbate these inequities. Analysis confirms our hypotheses: The percentage of African American students and having an African American founder were associated with charter school closure. Moreover, automatic standardized closure criteria disparately amplifies the effects.

Acknowledgements

My deepest thanks go to my advisor and chapter coauthor, Dr. Robert A. Maranto, for your steadfast guidance and support, and to my other coauthor, Dr. Ian Kingsbury. Thanks also to my dissertation committee members, Dr. Jonathan Wai and Dr. Albert Cheng, for your support, insights, and instruction; and my team of quantitative advisors, Dr. Jon Mills, Nathaniel Burke, and Dr. Aaron Novotny, for your help and support. Thank you, Dr. Patrick Wolf and Dr. Robert Costrell, for helping me with important methodological suggestions, and Dr. Sarah McKenzie for your patience and clear instruction.

Four remarkable state legislators put me on this path toward improving education. I thank you deeply, Kasha Kelley, Dr. Steve Abrams, Dr. Tom Patterson , and Lisa Graham Keegan.

Special thanks go to McCurdy School, Santa Cruz, New Mexico, and to the Mercatus Center for the incredible educational opportunities you provided.

Thank you, Dr. JFH.

Thanks to Kasha Kelley, Terri Weber-Stevens, Bich Tran and Christopher Giller for your steadfast friendship through my nontraditional educational journey. Katie Kopotic, you pulled me out of a hole and I'll be ever grateful. Molly Beck, your strong intellect is matched by your strong character, and I'm a better person because of you.

Finally, David, I can't ever thank you enough for your love, patience, support, and most of all, your sense of humor. Patrick, I know I'm speaking for your father as well when I thank you for being who you are in all ways.

P.S. Jack and Chloe, Scully and Mulder, Claire and Jamie, and Harry and friends: you guys know who really got me through this!

Dedication

To David Dorsey, with all my love and respect. You showed me how to see what's really there.

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List of Published Papers

Bradley-Dorsey, M. (Under Contract). "Rise of a *Centropoly*: Good Intentions, Distorted Incentives, and the Cloaked Costs of Top-Down Reform in Public Education" (working title), in Candela, R.; Fike, R.; and Herzberg, R., *Institutions and Incentives in Public Policy: An Analytical Assessment of Non-Market Decision-Making* (working title). Under contract with Rowman & Littlefield International. (Chapters 2 and 3 were submitted as one unit, with modifications)

Kingsbury, I.; Maranto, R.A.; & Bradley-Dorsey, M. Charter School Closing Inequities: Do Automatic Closure Laws Target Black Charter Entrepreneurs and Black Students? (submitted to *Educational Policy*; under review). (Chapter 6)

Introduction

America's pragmatically idealistic inception contrasts sharply with the formation of the U.S. public school system. While the two began in tandem, public education deviated and devolved into a set of monopolies, centralized first by states and later by the federal government into a massive bureaucratic structure which reflects progressive ideology of how government and the private sector should work. I call this monopolistic, layered bureaucratic creation the *educational centropoly*. The American public school system is frequently referred to as the traditional public school (or TPS) system, but I coined the term *centropoly* because it more aptly represents the entirely new government type that has combined three governmental levels, including monopolies, into one multi-level structure.[1] The base of the educational centropoly is a set of government monopolies, which hold captive their constituents by virtue of where they live, affecting especially those who have no means to change residences. Though not the sole transgressor, this foundation becomes important to my thesis, in which I focus on disadvantaged students. The next two levels of the centropoly are, in order of their addition to the multi-layered structure, the state and the federal government; both levels caused a greater degree of bureaucratization as well as resulting in a centralized structure. Importantly, parts of the centropoly then leverage all or part of the new structure to defend against any encroachment into the system. Each of these government levels relies on the others as needed to maintain its power. Here I argue that, once created, the educational centropoly has been simultaneously a growing

[1] Arguably, America's health care system involves another multi-layer government structure that has resulted in bureaucracy and centralization as well as the ability of one layer to defend itself with the help of the others. However, users are not limited to use of specific facilities based on their residence (other than statewide), as is true in the public education system. See, e.g., a description of within-state limitation of Medicaid use at https://www.healthinsurance.org/faqs/can-i-use-my-medicaid-coverage-in-any-state/ .

government establishment, a stagnant education provider, and a stalwart defender of turf. I provide evidence for all three arguments.

The following illustration represents the structure of my dissertation. In Chapter 1, I discuss the theory behind public organizations as reflected in the public school system. Here I present public choice theory as the foundation of my dissertation. I then juxtapose that theory against views of other thought leaders on bureaucracy, providing evidence that public choice theory appears to be not only correct, but also the most complete conceptualization of the American public education system.

I divide the remainder of the dissertation into two parts and five chapters, three of which are empirical in content. I examine aspects of the centropoly in Part One and of charter schools, and their relationships to the centropoly, in Part Two.

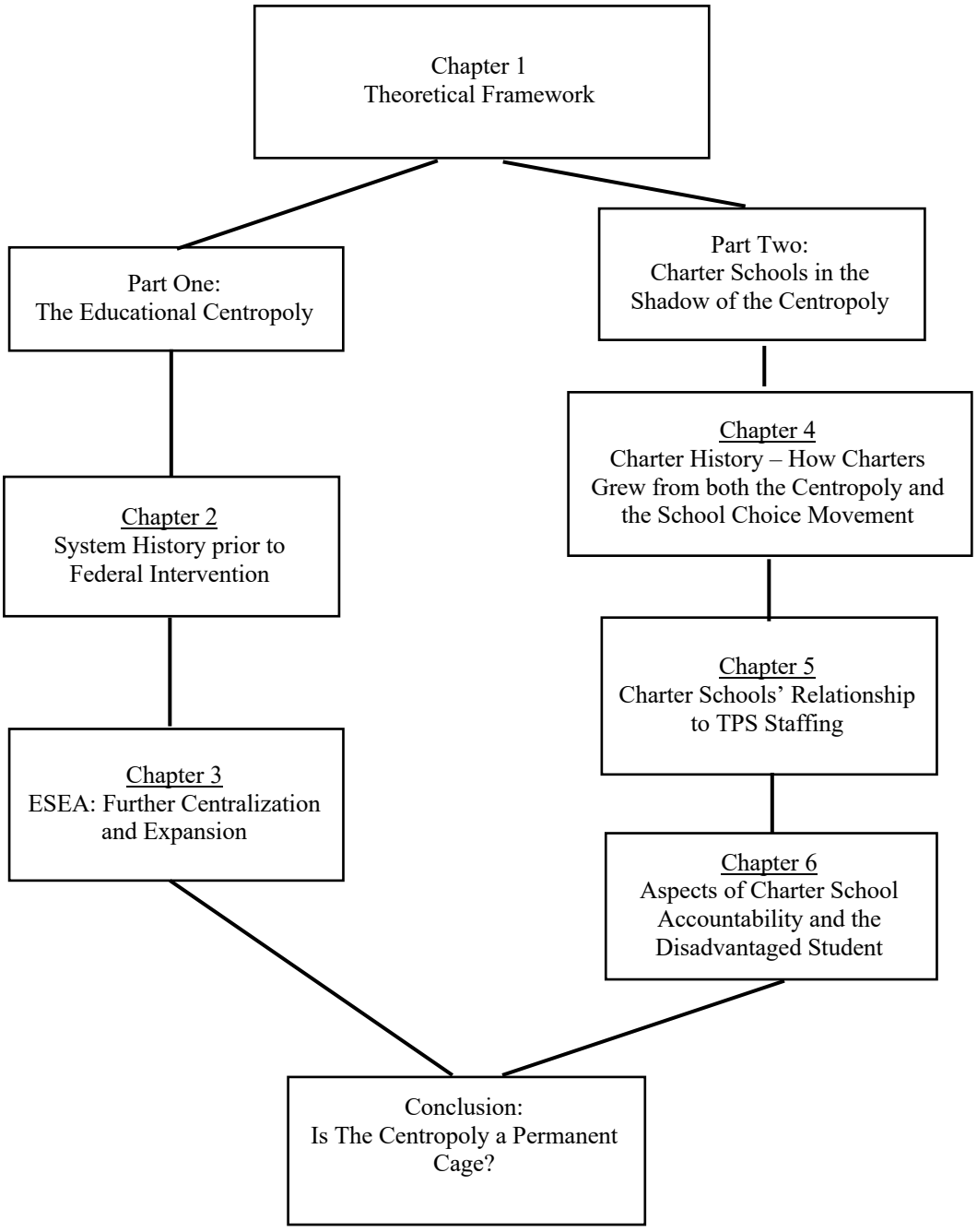

Figure 1. Structure of Bradley-Dorsey Dissertation

I present a two-part examination of the educational centropoly in Part One (Chapters 2 and 3). In Chapter 2, I add to the literature by tracing, in a single document, the larger early education reform movements that shifted American public schooling from its individual

community beginnings to the layered structure it has become. In Chapter 3, I specifically examine twentieth-century reforms adopted under the most significant federal education act, the Elementary and Secondary Education Act of 1965 (ESEA), which was intended to correct one of the system's most significant shortcomings by improving the educational outcomes of students disadvantaged due to low income. I provide evidence that these attempts to improve the education of low-income students have failed largely because of two phenomena: first, the system itself resists reform; and second, the ESEA reforms themselves have advanced and strengthened the public educational centropoly making it even better able to resist reforms. Here I empirically test the association between ESEA and its several amendments, including the seven reauthorizations, and the centropoly's power as evidenced in the relative state- and local-level staff counts. I use a panel data, fixed effects longitudinal regression model to test my hypothesis that ESEA and its amendments are associated with a sustained growth in relative state and local full time-equivalent (FTE) public school staff. I find that there are positive, statistically significant associations between FTE increases and eight of thirteen ESEA law changes, relative to the original (1965) Act. None of the five remaining law changes analyzed was associated with a statistically significant FTE change, and only two of those five (nonsignificant) associations were negative. I also find a negative, statistically significant association between poverty and FTE in the first analysis even given my independent variables of interest: ESEA amendment sets, the majority of the funding of which was based upon census counts of children in poverty. This finding needs further examination, as it might be concerning.

In Part Two I turn to charter schools, one significant attempt to exit the educational centropoly. Chapter 4 provides a brief but comprehensive overview of charter school history, showing that their inception is rooted in both the traditional public school system and the school

choice movement. Here I also provide limited discussion of several theories of legislative decision-making. Chapter 5 addresses a direct, inverse relationship between the strength of the centropoly and strength of the charter school movement in states – providing additional, but differently focused, evidence of the traditional public school system's power to resist reform. I again use a panel data, fixed effects longitudinal regression model to test my hypothesis that a state's charter school enrollment is inversely associated with the state's relative public school staff count. I find that this association is strong and statistically significant in states with Right to Work laws, where the states (not the unions) control whether an employee must be a union member to get or keep a job. The implication of this finding is that, in states without a strong formal union influence, the centropoly protects itself from reform involving students' exit to charter schools.

At this juncture it is important to discuss the concept of reform as it intersects with American public education. One must consider not only the focus, but also the source of any reform effort. This consideration intersects with public choice theory, which describes how, as government bureaucracies grow, policymakers respond by imposing reforms. Faced with these externally-sourced reforms the bureaucracy defends itself by "circling the wagons" – i.e., creating and using defensive measures to protect their organization, which frequently also result in greater bureaucratic strength and inflexibility (Downs, 1967).

Both Chapters 3 and 5 address externally-sourced reforms. A higher government level conceived of and imposed ESEA onto a school system heretofore almost completely consisting of only the state and school districts. ESEA's focus was to improve education for one student group in the extant district school system: students disadvantaged by poverty. The charter schools reform effort was simultaneously a national and state-level movement consisting of

reformers desiring to reset public education in the form of independent schools devoid of the centropoly's monopolistic and bureaucratic pitfalls; its focus, then, was to create a new type of public school outside the centropoly. As I detail in Chapters 3 and 5, the centropoly has resisted both of these externally-sourced efforts regardless of their focus.

In Chapter 6, I consider a more direct intersection of the centropoly's political influence on charter schools. Charter schools presented an opportunity for *internally*-sourced reforms, in that charter schools are created to be independent and therefore more accountable for their own success or failure. However, as shown in this chapter, *externally*-sourced reform measures frequently make their way into charter school laws; as such, they represent a reform the primary purpose of which is to protect the centropoly instead of improving the independent charter school. This, too, reflects public choice theory: the centropoly circles its wagons – this time widely, to prevent an external interloper's success. Here I argue that charter school accountability has been adulterated by the same turf-protective politics that have weakened many states' charter school laws, as I explain in Chapter 5. I argue further that these politics also have succeeded in restricting charter schools in ways that have, once again, negatively affected disadvantaged students, this time by virtue of race.

PART ONE:The Educational Centropoly

Chapter 1 – Theoretical Examination: The Irony and Power of the *Centropoly*

Introduction

Examining theory behind the centropoly's behavior involves looking at political, economic, sociological, and psychological factors, all as they play out in bureaucracies. Under mainline economics theory,[2] the first three of these – politics, economics, and sociology – would fall under the category of political economy. I base my analysis in public choice theory, which operates within the overarching mainline economics theory and therefore is part of the realm of a particular branch of political economy. Public choice theory contemplates choices inside *formal* (e.g., public) institutions. The theory can be explained using three relatively simple concepts: individual incentives are similar inside and outside institutions, knowledge decreases as organizations grow, and organizational individuals seek increased resources as the natural outcome (Boettke, Haeffele-Balch, & Storr, 2016; Buchanan & Tullock, 1962, 1999; Tullock, 1965, 2005; Downs, 1967; Niskanen, 1971, 2007). Mises (1949, 1998, 13) aptly summarized the force that underscores all economic theory, including public choice, when he wrote, "Action is a

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[2] Mainline economics theory distinguishes itself from *mainstream* economics, the latter of which changes over time and frequently has emphasized the role of government over the marketplace. As Boettke, Haeffele-Balch, and Storr (2016, 4) state, mainline economics is based upon several positive premises about social order. These propositions include three on "the nature of human action and the role of institutions…." First, human benevolence has its limits, in part resulting in knowledge limits in navigating the social world. In other words, "human beings can be imperfectly benevolent…. [and we] are more likely to succeed … by relying on their self-love than by relying on their kindness" (Boettke, Haeffele-Balch, and Storr, 2016, 5). Second, because of these limits, both formal and informal institutions influence activity. Third, and key to mainline economics, "social cooperation is possible without central direction." The editors conclude, "Stated another way, by relying on the emergent and human-devised rules of conduct, agents possessing both the capacities *and the failings* of the typical human being can nonetheless work together to achieve their individual and collective goals (Boettke, Haeffele-Balch, and Storr, 2016, 4) (Emphasis added)."

real thing. What counts is a man's total behavior, and not his talk about planned but not realized acts."

Public choice theory is based upon the concept of rational self-interest. I begin my theoretical analysis by discussing several views of the concept of rationality.

As the educational centropoly necessarily involves bureaucracy, I must examine it in the context of bureaucratic theory. It is intimidating to embark upon bureaucratic theory in any research work, as volumes have been written on the subject. Indeed, summarizing even one of bureaucracy's primary scholars is a daunting task. Here I do not pretend to provide an extensive theoretical analysis of bureaucracy. I intend instead to provide theoretical evidence to support my theory of choice, public choice theory (no redundancy intended), and contrast it briefly against the work of two scholars whose views appear to differ.

In summarizing and discussing public choice theory as it relates to bureaucracy, I cite the works of several authors including those I have discussed previously. Here I explain the primary concepts of public choice – regarding knowledge, public versus private intentions, and the behavior of bureaucrats in the final analysis: budget and power maximization. Later, in Chapters 2 and 4, I show how public choice fits theoretically – first with the concept and behavior of the centropoly and then as an external force against charter schools.

I contrast public choice theory against works of Max Weber and James Q. Wilson. Again, my analysis will not delve deeply into either scholar's work, nor will it carefully dissect all relevant features of their scholarly works on the subject. Here I examine pertinent aspects of each scholar's works, including secondary analyses of their works, to compare selected aspects with public choice theory.

Prelude: On Being Rational

> *People who argue that men are not rational are, in a sense, contradicting themselves. If men are not rational, there is no point, or possibility, of argument or discussion (Tullock, 1965, 1992, 30)*

Thus begins public choice theorist Gordon Tullock's discussion of humans' rational behavior in bureaucracies. Tullock proceeds with detail regarding how human rationality manifests itself, ultimately concluding that those who work in bureaucracies are "among the most rational of men" (Tullock, 1965, 1992, 30). Even if humans are not consistently rational – i.e., if some humans are and some are not, or if some humans are more rational than others – then "[t]he people who rise in any merit-type hierarchy will be, at least, among the most rational of men" (Tullock, 1965, 1992). However, Tullock argues that people regardless of their culture are rational because "they aim at different objectives and base their operations on different 'information' about the real world" (Tullock, 1965, 1992).

Tullock asserts that many conclude humans are basically irrational in their behavior because they "[use] the term [i.e., rationality] in a wider sense than … intended here" (Tullock, 1965, 1992). Tullock divides the motives behind all human actions into "two categories: instrumental and ultimate" (Tullock, 1965, 1992, 30-31). Eating a particular food because one likes the taste is based on an *ultimate* focus, while a person who does a particular job does so, at least in part, for the *instrumental*, or ulterior, motive of earning money. He then concludes, "Actions motivated by instrumental considerations are, almost by definition, rational" (Tullock, 1965, 1992, 31).

Frequently, Tullock argues, human motivations are complicated because "[a]lmost all human beings have extremely complex aspirations, and any action is thought of as a method of reaching numerous ultimate ends" (Tullock, 1965, 1992). Attempts to explain such behavior are

often oversimplified, and this oversimplification leads to the conclusion that a person's actions "may seem inappropriate to his stated ends" (Tullock, 1965, 1992).

Tullock then addresses the concept of human error as it relates to rationality. Human error is ubiquitous, so a bureaucracy's merit system generally will "select for intelligence" by allowing those who make the fewest mistakes to rise in the organizational structure. However, error still occurs, and public choice theory takes this into account. While, generally, economists have ignored error because in economic situations, errors cancel each other out, Tullock maintains that "in the typical organizational hierarchy, errors tend to compound each other" (Tullock, 1965, 1992, 32).

In summary, Tullock views rationality as (1) a ubiquitous human characteristic, which is based on (2) actions divided into two categories of choices – ultimate (based on subjective assessment) and instrumental (based on means-end assessment); and is (3) subjected to a compounding of error in hierarchical organizations. Combined with the attribute self-interest, this combined characteristic – rational self-interest – is the basis on which public choice theory is founded.

But theorists from different fields of study define rationality in different ways. Agreeing upon a definition is essential to understanding any theory behind actions in a bureaucracy, certainly including public choice theory. Here I examine meanings of rationality as used in economics, sociology and politics, and psychology. I then attempt to show that rationality as applied in public choice theory does not conflict with definitions from other fields of study – if certain ground rules are accepted.

In all cases here, I ultimately compare among theories based on reasons for individuals' actions, not their thinking. This is the primary assumption which, I argue, separates agreement

from disagreement between these theorists' definitions of rationality. Second, I focus on individuals' actions within public organizations such as the public school system. I point out theoretical arguments that are not focused specifically within public organizations.

Economics

Since economics is a social science, it concerns itself with how individuals organize to meet needs and further enhance their existence (Goodwin, et al., 2019, 145). The classical economic view of rationality dates at least to Adam Smith's conception of the *invisible hand*, which he explained in his famous book, *An Inquiry into the Nature and Causes of the Wealth of Nations*, first published in 1776. In Smith's conception, individuals would act self-interestedly through markets, and their self-interested actions would promote the welfare of the group. Importantly, as detailed in Goodwin et al. (2019, 145), many have ignored Smith's prior book, *The Theory of Moral Sentiments* (first published 1759), in which he made it clear that self-interest is not the only human inclination influencing both individual actions and the general welfare. Rather, he explains, actions are motivated by "moral sentiments", or the "universal desire" for self- and other-respect, *in addition to* "the fortunate accident by which … selfish acts can [often, though not always] 'promote the public interest'" (Goodwin et al., 2019, 145). This addition to Smith's theory – and conversely, its oversight by others – becomes important later in my analysis.

The neoclassical view of economics, which appeared in the twentieth century, simplified the classical by limiting the number of economic actors to two – the firm and the household – and further assuming that each of these actors maximizes utility in the form of profits (for firms) or satisfaction (for households). Economists espousing this model claimed that all in economic

theory could be deduced from this assumption, termed the *rationality axiom* (Goodwin et al., 2019, 146).

In recent decades behavioral economists have challenged the neoclassical view by rejecting behavior-related assumptions in favor of actually testing behavior. Two important findings have resulted from behavioral economics; ironically, psychologist Daniel Kahneman discovered both. Kahneman uncovered a phenomenon he termed the "availability heuristic", i.e., that individuals generally give more weight than is deserved to information that is "easily available or vivid" (Goodwin et al., 2019, 148). Kahneman also showed the effect "framing" has on individuals' decisions, i.e., "the way a decision is presented to people can significantly influence their choices" (Goodwin et al., 2019, 148).

Economists have also analyzed time's role in individuals' decision-making: individuals place different weights on gains amassed immediately versus costs amassed later for given decisions. Behavioral economists have changed the view of emotions' role in decision-making. Instead of emotions having a straightforward and negative influence on decision-making in all cases, "studies suggest that reasoning is most effective when used for making relatively simple economic decisions, but for more complex decisions we can become overwhelmed by too much information" (Goodwin et al., 2019, 150).

To summarize economics' various general contributions to the definition of rationality, one might conclude it is not as simple as many others have opined. Even as far back as Smith (1759, 1776), economists have acknowledged behavioral nuances. This background combines with Tullock's specificity regarding rationality in organizations to form a more detailed theory on which to base public choice than many acknowledge. Turning now to sociology and political science, I show that, where the theories differ from that underpinning public choice, at least one

of two processes is at work: either the theory is based primarily on human thought as opposed to action, or the theory assumes a literal translation of public choice arguments as with those who addressed only one aspect of Adam Smith's nuanced theory regarding human action.

Sociology and Politics

Max Weber is likely the most well-known sociologist historically, although he also analyzed human thought and behavior based on politics. According to Kalberg (1980), Weber's primary contribution was his development of rationality theory. Indeed, Kalberg (1980) analyzes Weber's "major comparative-historical-sociological works…." (published after 1904) consisting, in part, of his analyses of the religions of China and India as well as ancient Judaism, and Weber's well-known *The Protestant Ethic and the Spirit of Capitalism* (Kalberg, 1980, 1147). As Kalberg (1980, 1148) notes, Weber developed a typology of social action consisting of four action types – "affectual, traditional, value-rational, and means-end rational" which, Weber claimed, applied to all humans. Among these, Weber argued that "even everyday actions of 'primitive' man could be *subjectively* means-end rational" because they constituted "pure exchange" relationships. Weber moved beyond analysis of human action when he developed four different types of rationality, as Kalberg illustrates in Table 1 (from Kalberg, 1980, 1161; adapted with permission).

Table 1
Weber's "Conscious Mastery of Fragmented Realities through Regularities of Action" as Explained and Defined in Kalberg (1980)

Type of Rationality	Definition	Mental Processes	Relation to Action	Reference for Mental Processes
Theoretical	"…[A] conscious mastery of reality through the construction of increasingly precise abstract concepts rather than through action" (Id., 1152)	Various abstract processes	Indirect	Values or purely theoretical problems
Practical	"…[E]very way of life that views and judges worldly activity in relation to the individual's purely pragmatic and egoistic interests…." (Id., 1151)	Means-end calculation	Direct	Interests
Formal	"… [R]elates to spheres of life and a structure of domination that acquired specific and delineated boundaries only with industrialization; most significantly, the economic, legal, and scientific spheres, and the *bureaucratic form of domination* (Id., 1158) (Emphasis added)	Means-end calculation	Direct	Rules, laws, regulations
Substantive	"*[D]irectly* orders action into patterns…. in relation to a past, present, or potential 'value postulate' (Id., 1155)	Subordination of realities to values	Direct	Values

As shown in the above table, Weber conceived of rationality in multiple ways, but he conceived of bureaucracies as belonging in a single (the formal) rationality type. Weber theorized that formal rationality maintains a direct relationship to action and involves means-end calculations. Hence, it appears, Weber theorized that rational action differs based on who is doing the acting – and bureaucrats, it seems, act based on a definition of rationality that is like that maintained by public choice theory since it is a means-end calculation.

Zafirovski (2005) similarly concludes that, as classical sociological theory "clearly differentiates between economic and non-economic forms of rationality…., [the distinction is related to] Weber's differentiation between instrumental rationality … and value rationality… [which in turn] corresponds to Weber's alternative typology of rationality into formal and substantive" (Zafirovski, 2005, 105). Importantly, the author then concludes that, in classical sociological theory, "phenomena 'treated as constants in economic analysis are *very often compatible* with significant structural variations-from a sociological point of view' [Weber, 1968, 341]" (Zafirovski, 2005, 106) (Emphasis added).

Simon (1995, 48) plainly disagrees with public choice theory. He notes,

> The economist's definition of rationality … imposes a crushing weight of knowledge acquisition, computation, and global consistency on the decision-maker at the same time that it allows him or her nearly complete freedom in the selection of the goals of action. The former property of the theory might appear to provide it with strong predictive power: given the actor's goals as defined by a utility function, and the (known) alternative actions, and the known (at least up to a probability distribution) connections between action and utility, only one action, in general, can be rational. The actor's freedom to define the utility function destroys almost all of the predictive power so arduously obtained, because what action is rational will depend critically on what goals are assumed to have utility, and this is not specified by the theory. (Simon, 1995, 48-9)

Is it possible that Simon (1995) assumes a literal translation of public choice theoretical explanations of action? I argue that Simon (1995) derives his conclusions from a high-level (i.e., non-detailed) vantage point. As such, it appears Simon ignores, first, the various contributions of economic theory in general (such as behavioral heuristics) and, second, the nuances contemplated in public choice theory (Tullock, 1965, 1992) regarding, e.g., the distinctions between the two action categories. As with the often-ignored first book by Adam Smith (1759), many who criticize public choice theory assume too little nuance and too much rigidity. I turn to the field of psychology for potential answers to this question since psychology provides

additional valuable explanation of rational human behavior by examining the details surrounding it.

Psychology

As Sunstein (2020) and Clore (2011) summarize, the field of psychology has contributed in multiple ways to studies on rationality. Sunstein (2020) summarizes the contributions of much of behavioral science as "departures from standard accounts of rationality" (Sunstein, 2020, 38). Both Sunstein (2020) and Clore (2011) amplify this characterization through the use of research examples. For example, an individual differences study by Block & Funder (1986) found that judgment heuristics allow people to fare better in everyday life. "Engaging in heuristic thinking, although it occasionally leads to error, tends to be adaptive, rather than undesirable…. Indeed, if we routinely thought in a systematic, conscious, controlled fashion, humans would never have survived as long as we have. Thinking and acting appear to be guided, much more than is generally realized, by the requirements of resource management [Proffitt, 2006]" (Clore, 2011, 3). In other words, individuals who do not take the time to consider every choice in detail are generally more successful in terms of life satisfaction. While this is not intended to be considered normatively, the research indicates that many employ heuristics in their decision-making processes, thereby "getting on with life," and herein might lie the connection to public choice.

Psychological studies also have found that emotion sometimes precedes, and sometimes follows, behavior. Clore (2011) details anticipation of various emotional states and the effect of this anticipation on action. Anticipation of negative emotion frequently leads one to modify one's behavior. Most individuals would anticipate negative emotion in the cases of supervisors reprimanding, isolating, or otherwise casting them aside; many of these employees would anticipate supervisory rejection if the employee disagreed with their supervisor. Accordingly, an

individual in an organization could make the expedient decision to avoid unpleasantness by making choices to further his/her own advancement. “Good decision-makers are people who are both emotionally and intellectually intelligent in that they are attuned to the affective reactions that foreshadow productive and unproductive lines of thought and action” (Clore, 2011, 5).

Psychological research also produced the finding that, while cognition regulates emotion, emotion also regulates cognition. In a study of how emotions are related to cognition at a global versus a detailed level, Gasper & Clore (2002) conclude that “… feelings in any given moment direct our mental processes, so that in happy states, people more readily adopt a global focus, whereas in negative states (e.g., sadness) they more readily focus on details….” (Clore, 2011, 8). For example, while management quality is not the subject of this paper, it is highly possible that management (leadership) in bureaucracies suffers in quality. Relatedly, Worthy (1950, 173) studies employee morale in organizations of various structures and finds:

> … [T]he smaller the unit the higher the morale, and vice versa. It is clear that the closer contact between executives and rank and file prevailing in smaller organizations tends to result in friendlier, easier relationships….
>
> In broader terms, the smaller organization represents a simpler social system than does the larger unit. There are fewer people, fewer levels in the organizational hierarchy, and a less minute division of labor….

Therefore, since “emotion often motivates thought….” (Clore, 2011, 8), and thought frequently leads to action, responses based on emotion can also be seen as a basis for rational action.

In summary, I question whether there might be more similarities than differences between the various theories of rationality. Whereas some view economic theory as truncating thought processes leading to actions, a more detailed examination shows such is not necessarily, or at least not always, the case. On the other hand, other social sciences generally delve more deeply into the thought processes that precede actions – heuristics represent a prime example –

yet actions still result and likely are not so different from what public choice theorists describe in the public organizational setting.

Public Choice: Identical Motivations Leading to Collation of Individual Preferences

In contrast with the presumption that people participating in the political arena benevolently "rise above their own parochial concerns" to "promote the common good", the public choice model "simply transfers the rational actor model of economic theory to … politics" (Shughart, n.d.). Public choice differs from most analyses of bureaucracies in two important ways. First, in public choice theory the individual, and not a group (such as the office or institution) is the analytical focus. Says Shughart, "Groups do not make choices; only individuals do. The problem then becomes how to model the ways in which the diverse and often conflicting preferences of self-interested individuals get expressed *and collated* when decisions are made collectively" (Shughart, n.d.) (Emphasis added). Second, differences between individuals and organizations occur, not because of motivational differences, "but because of stark differences in the *incentives and constraints* that *channel the pursuit of self-interest in the two settings*" (Shughart, n.d.) (Emphasis added).

In other words, individuals enter the organizational "black box, and what emerges is the combined and perhaps layered effect of *individua*l decisions which have been subjected to organizationally-created or -modified incentives and constraints. At each individual decision-point step along the process in the institutional black box, the individual weighs his/her preferences considering what (s)he observes to be the preferences and limitations of the organization's other participants, presumably considered in hierarchical order. While some individuals choose consciously to obey, and while some are doubtless more adept at navigating this organizational process, even those who choose benignly to defer to other individuals'

influences are doing so based upon a private calculation that deferring is their best option in the circumstances.[3]

In summary, actors inside organizations have the same human motivations as any individual acting outside an organization. However, as an organization grows, any organizational individual becomes further insulated (removed) from the knowledge needed to accomplish the goal(s) sought. This and interactive issues, stemming from incentives operating inside the organization and often relating to power within the organization, result in actions directed toward benefitting organizational insiders and not the organizations' constituents.

Lavoie (1985) describes the "knowledge problem" by making the distinction between gathering data and gathering knowledge in the setting of a planning bureau.

> While a planning bureau can gather data, it cannot gather the knowledge needed for rational planning. Such knowledge is dispersed among market participants. It is embedded in their various skills and specialties, and it is generated by their competitive contention with one another. Yet without such knowledge the planning bureau would be unable to justify intervening in ignorance into the workings of the market process (Lavoie, 1985, 6).

Importantly, then, data points are a poor substitute for the knowledge "on the ground" – i.e., all the various considerations that market participants know, learn, and convey in the market itself. Lavoie's (1985) focus on economic planning could instead address any public organization, including the educational centropoly. In the briefest of statements, Lavoie (1985, 3) provides the key to understanding what I argue could be termed desire based on ignorance of those espousing planning as central to control of an economy or any part of it, including its educational component. The author comments, "All advocates of planning [as opposed to advocating reliance on the market economy] seem desperately to *want* comprehensiveness and

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[3] Neal Peart, lyricist and percussionist of the Canadian progressive rock group *Rush*, in his Ayn Rand scholarly phase penned this concept in "Freewill": "If you choose not to decide, you still have made a choice."

rely profoundly upon its rhetorical appeal." The problem, he states, relies in the assumption behind the superiority of planning: "The critique of the market economy upon which planners base their argument presupposes that it is *actually possible to scientifically control* the causal development of a modern … economy" (Emphasis added). Public choice fits here by showing why such "science" cannot be actualized. Science relies on knowledge and knowledge is absent, to a large extent, from the very group espousing its employment. Additionally, the limited knowledge an organization possesses is manipulated, even if inadvertently, due to the playout (collation) of incentives functioning inside the organization.

Public Choice and Bureaucracy

Public choice theorist Anthony Downs (1967) identifies bureaus as a subset of organizations, which must exhibit all of four characteristics: (1) they are *large* – a term that could expand, at least in relation to the public school system, to include the effect of layering government levels;[4] (2) most of a bureau's members are full-time employees who *depend on their employment* in the organization for most of their income; (3) hiring, promotion and retention are at least partly based on achievement-related characteristics that can be judged by performance assessment, as opposed to ascribed characteristics (religion, race, class, connections) or election to office; and (4) their *output is not subject to external market evaluation* (Downs, 1967, 25) (Emphasis added). Downs (1967, 144-166) then describes how increasing bureaucracy defends and expands itself, and then rigidifies.

[4] Of course, not all U.S. school districts are large; indeed, many are small organizations. However, as will be explained later, the layered bureaucracy resulting from state and federal involvement changes the structure to some extent, effectively making even small districts operate as larger entities. State and federal involvement result in decreased information flow and flexibility of even the small districts.

A central tenet of public choice theory is that knowledge suffers as distance increases between decision-makers and those who provide input. Tullock (1965, 1992, 148-152) describes this phenomenon in bureaucracies by employing an analogy to an American army experiment used as a teaching device, wherein trainees stood in a large circle outside hearing distance of each other. An officer would pass a message orally to one soldier, who then ran to the next soldier in the circle to deliver the same message orally, and so on until all soldiers had received the message. When the last soldier repeated the message, normally it no longer resembled the original. Tullock (Tullock, 1965, 1992, 148) ascribed this not to a defect inherent in using oral over written transmission, but instead to distortions arising "in the brains of each man". He then elaborates regarding bureaucracies, explaining bureaucrats are not "mere postmen" but are interpreters as well (Tullock, 1965, 1992, 150). As bureaucracies have multiple hierarchical levels, so the possibility of multiple (mis)interpretations increases.

William Niskanen (1971) furthered public choice theory by explaining that public bureaucracy employees maximize utility through rational decisions regarding survival and personal growth. Alternatively stated, officials, acting rationally, seek strategies to maximize their budgets. Regarding incentives, Downs (1967, 82) states, "Utility maximization … means the rational pursuit of one's goals…. In order to predict what officials will do, we must know their goals." Downs (1967, 82) juxtaposes *social functions* – the overt, publicly stated goals of an organization – against individual officials' private motives. Private motives include increased power among organizational leaders, job retention and pay increases for employees, and others. Here we come full circle to the first concept, that of humans operating with the same motives inside and outside institutions.

According to Blais & Dion (1990, 657), "The Niskanen model predicts that the bureaucrat's personal utility is a function of the budget and that bureaucrats attempt to maximize their budgets." Specific considerations include salary, benefits and other perquisites, power and reputation, all which Niskanen theorizes constitute "a positive monotonic function of the total budget" (Blais & Dion, 1990, 656). Public bureaucracy officials, according to Niskanen, also maximize their budgets for survival purposes (Blais & Dion, 1990).

Because humans populate institutions, organizational behavior is fundamentally human behavior. However, the layering of institutional control over humans produces layered responses with the deepest layers – and their motives – cloaked to some extent. Assuming, as with the public choice model, that "every official acts at least partly in his own self-interest" (Downs, 1967, 83), one must take private motives into account when examining the actions of a bureau, and particularly a layered one. Downs (1967, 83) cites Calhoun (1953, 5): "'Each [individual]… has greater regard for his own safety or happiness than for the safety or happiness of others, and, where these come in opposition, is ready to sacrifice the interests of others to his own.'" Hearkening again to the words of Mises (1949, 1998, 13), it is a person's actions that ultimately count.

How does public choice theory compare with the scholarly works of Max Weber and James Q. Wilson? Here, I use secondary sources to analyze Weber's sociological and political works, and James Q. Wilson's assessment of bureaucracy and related theory.

Max Weber: Different Interpretations Leading to Confusion, and Perhaps Conclusion

> *Max Weber proposes the concept of Bureaucracy in a context in which he considers the rationalization of society as inevitable …, causing a growing impersonality in the social relationship…. Rationalisation boosted the project of modernity by enabling the application of the general principles of reason to the*

> *conduct of human problems, fostering the ability to respond to unstable environments and to manage the inherent complexity….*
> *(Serpa & Ferreira, 2019, 12) (Internal references omitted)*

In the above statement, Serpa & Ferreira (2019) summarize several scholars' analyses of the Weberian sociology of bureaucracies. Rowley, in his 2005 introduction to the work of Tullock (1965, 1992) regarding bureaucracies, agrees generally with this assessment. Public choice theory exists in sharp contrast, he says, to interpretations of Weber's assessment that bureaucracies had become dominant because of their "efficiency in performing complex organizational tasks" and because a new middle class had emerged whose position depended on "... its possession of technical and organizational skills and … its authority position within the bureaucratic hierarchy" (Tullock, 1965, 1992, xi). Further, according to Rowley, Weber characterized members of a bureaucracy as "selflessly [serving] the goals of their superiors," even in the public sector (Tullock, 1965, 1992, xi.).

However, this interpretation does not consider the distinction between Weber's sociological work and his political writings. Whereas his sociological analyses focus on the structure of bureaucratic organizations and of the intended purpose(s) of bureaucracies, Weber's political analyses ponder the political context and, hence, unintended consequences of the bureaucratic structure.

Automatons vs. Autonomy

Serpa and Ferreira (2019, 14) draw on several scholarly works to interpret Weber's analysis of bureaucracies as consisting of "disinterested" individuals consenting to organizational objectives by agreeing, *via* employment, to be a cog in the bureaucratic wheel.

> For Weber, impersonality and formality, ensured by bureaucratic rationalisation, guarantee that organisational objectives are not confused with personal motivations or other interests (Godoi et al., 2017). *Impersonality and formality allow dealing with situations and not exactly with people, treating all in the same*

> *formal way* (Cruz, 1995). Furthermore, it would increase predictability in the functioning of any organisation (Ferreira, 2004; Filleau & Marques-Ripoull, 2002) (Emphasis added).

In other words, according to several analyses Weber points to the need for "rational action" to control uncertainty. Under this perspective Weber then characterizes individual bureaucrats as automaton-like beings disinterested to the point they would work in unquestioning obedience to this "rational" hierarchical authority, regardless of personal consequences.

Others disagree, however. Cuff (1978) compares Weber's sociological and political analyses of bureaucracy. Citing Beetham's (1974) *Max Weber and the Theory of Modern Politics*, Cuff distinguishes between "Beetham's Weber" (Cuff, 1978, 241) and the "Weberian model of bureaucratic administration" (Cuff, 1978, 240). Whereas, Cuff says, Weber's sociological writings delineate a leadership and staffing structure allowing for improved efficiency in organizations, in his political writings he registers concern for the potential loss of political control by elected leaders, which, he maintains, is the proper sphere for such control. Says Cuff (1978, 241):

> Weber's purpose … was to emphasize not what bureaucracy could do, but what it would not and should not do. As a political commentator Weber stressed the need to subordinate bureaucracy to strong political control. Strong leadership was required, he argued, to *restrain the bureaucracy's inexorable quest for autonomous power and to reduce its collusion with powerful economic interests* (Emphasis added).

Reprise: Public Choice Response to Weber

To the extent Rowley (Tullock, 1965, 1992) refers to Weber's sociological analyses, he maintains that Tullock's public choice analysis constitutes a "direct rational choice attack" on Weber's perspective (Tullock, 1965, 1992, xii). Rowley states that Tullock maintained a different view of rational action, and that Tullock based his "attack" partly on the analysis that resulted in Parkinson's Law, i.e., "'Work expands … to fill the time available for its

completion'" (Tullock, 1965, 1992, xii). In 1957, C. Northcote Parkinson challenged Weber's analysis by conducting two empirical studies – of the British Navy in 1914 and of the British Colonial Office in 1954 – each of which found that staffs grew even as the need for them shrank (Tullock, 1965, 1992, xii-xiii). Presumably, under the Weberian sociological interpretation, if bureaucrats were so "selfless," they would voluntarily exit their posts when no longer needed. Yet, Parkinson found the opposite occurred in these two situations. I question, however, whether this analysis includes only that covered in Weber's sociological works. As noted previously by Cuff (1978), Weber also recognized the dangers of bureaucracies, which he described as power-amassing behaviors and which therefore, if only in a general sense, comport with public choice theory.

James Q. Wilson: Theory by Exception?

Wilson addressed bureaucracy more from a historical than a theoretical perspective. His 1975 essay titled "The Rise of the Bureaucratic State," in which he summarizes the history of U.S. government bureaucracy, provides context for the centropoly.[5] Wilson (1975, 78) indicates the War Department had 80 civilian employees in 1801, while the Treasury Department was the only department to have substantial powers (e.g., collecting taxes, managing the public debt, and running the national bank). During the entire 19th century and the early 20th century, "[t]he number of administrative agencies and employees grew slowly but steadily … and then increased explosively on the occasion of World War I, the Depression, and World War II" (Wilson, 1975, 78).

[5] Interestingly, the executive branch of American government became the future locus of most federal bureaucracy when Vice President John Adams cast the tie-breaking vote to place federal executive department head removal in the hands of the President. State government executive branch bureaucracies generally followed suit; however, not all state public education bureaucracies extend from the executive branch. See, e.g., *Kansas Constitution*, Article 6, which establishes an independent State Board of Education "which shall have general supervision of public schools…." and which is answerable to neither the Governor nor the Legislature.

Given this history several questions come to mind. First, did bureaucracy appear through "explosive growth" only because of crises? Second, one might question whether an educational bureaucracy was necessary, whether what constituted a crisis changed in scope, or whether America simply grew accustomed to bigger governmental entities. Whichever way, perhaps it was only a matter of time before the U.S. government created an education department.

Regarding U.S. bureaucracy Rozansky and Lerner (2012) note:

> Wilson argues that those who believed in the infallibility of institutions were almost entirely wrong and the public choice school was often right. But he is also critical of what he sees as the movement's methodological dogmatism, and its resulting inability to account for the actual behavior of government agencies.

To describe what Rozanski and Lerner (2012) call "methodological dogmatism," the authors note that public choice theorists believe "that bureaucratic behavior is reducible to simple games of incentive; that a bureaucracy will always have an incentive to increase its funding, powers, and control; and that individual bureaucrats additionally are motivated by self-interest, concerned chiefly with their careers, salary, and reputation." To the contrary, the authors say, Wilson instead argues bureaucracies are different based on their structure and leadership, as opposed to their goals.

In *Bureaucracy* (Wilson, 1989), a book the author describes as "primarily descriptive" (Wilson, 1989, 27), Wilson uses Carver High School in Atlanta, Georgia as an example of how structure and leadership can dramatically change an organization. Wilson describes Carver High's status prior to Hogan's appointment as principal in the terms used by Cooke (1985) regarding all-black middle or junior high schools: "[A] disorderly all-black … school in which the norm was to 'leave the teachers alone and let the students fail'" (Referenced internally in Wilson, 1989, 21). At Carver, change came in the person of Norris Hogans, who, among other

things, operated in an "authoritative, even authoritarian style" and "stressed the importance of education, especially vocational education (Wilson, 1989, 21).

The problem with assuming Wilson's example somehow undermines public choice theory is that it constitutes "theory by exception". In other words, Wilson's example of Carver High's Principal Hogan is one in which a leader with courageous convictions defied the underlying system described by Cooke (1985) as arguably the exact result of the centropoly, which I summarize in detail in Chapters 2 and 3. In these chapters I show that the system as created instituted an "equal" (i.e., uniform) education in very unequal geopolitical circumstances, hence leaving disadvantaged students in a system that could not work for them. The Carver Highs of America might indeed change the circumstances for those students fortunate enough to attend such schools under such courageous leadership. But what happens when that leader leaves? Examples abound illustrating how the centropoly rushes to erase the reforms implemented by such leaders.[6]

Albeit limited in scope and wanting in additional research, at this juncture I conclude that my analysis of various other theories has not provided an alternative I would consider as superior to public choice theory. Once one has considered actions (not thoughts or beliefs) and excluded exceptions, it seems we return to the goals, knowledge, and budget bases of public organizations to derive the underlying life forces of the centropoly's strength.

[6] See, e.g., Whitmire, 2011.

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Chapter 2 – The Centropoly Rises: Formation of the American Public School System[7]

Introduction

America's pragmatically idealistic beginning contrasts sharply with the formation of the U.S. public school system. While the two began in tandem, public education deviated and devolved into a set of monopolies, centralized first by states and later by the federal government into a massive bureaucratic structure. I call this monopolistic, layered bureaucratic creation the *centropoly*.

The American founders provided fertile ground for Adam Smith's *invisible hand* to flourish through a constitution designed to limit government and allow individual liberty. The founders' design gave the free market – of both goods and ideas – an optimal setting. Alexis de Tocqueville praised the resulting American civic society stating Americans maintained a correct understanding of self-interest, which tempers individualism by recognizing the need for social involvement *via* small, "free" organizations. Americans, he opined, operate under the assumption that sacrificing oneself for one's fellows is *useful* in maintaining one's own interests through maintenance of the government form. Herein, said Tocqueville, lies the nexus of individual liberty and social responsibility (Tocqueville, 1840; 891, 920-923). While no human governance system is perfect, Tocqueville concluded that the combination of the invisible-but efficient *informal* information systems and the conscious development of communities populated by

[7] This chapter and Chapter 3 together, in large part, comprise the following forthcoming book chapter: Bradley-Dorsey, M. (Under Contract). "Rise of a *Centropoly*: Good Intentions, Distorted Incentives, and the Cloaked Costs of Top-Down Reform in Public Education" (working title), in Candela, R.; Fike, R.; and Herzberg, R., *Institutions and Incentives in Public Policy: An Analytical Assessment of Non-Market Decision-Making* (working title). Under contract with Rowman & Littlefield International.

responsibly acting individuals served both individuals and communities well in their quest for betterment.[8]

Schooling in America began in precisely this way: a *nonsystem* consisting of individual, community-organized schools. Historical twists, however, led public schooling to an alternate universe. Instead of remaining community-based, public schooling evolved into the *educational centropoly* – my term for the multi-level, monopolized, and centralized government bureaucracy that controls American public schools. Extending from early reformers' actions, this change unfolded in pieces over time to eventually form the complex structure we have now. Through external reforms that have attempted to "repair" schools, social policy interventions have caused increasing centralization through larger and deeper formal institutions. This result has decreased knowledge (a process explained by Tullock, 1965, 1992, 148; and Lavoie, 1985) and strengthened bureaucratic inflexibility (Downs 1967, 144-166), and it has left numerous students vastly underserved.

Importantly, neither bureaucratization, centralization, nor monopolization alone created the U.S. public school system. The three combined to generate the layered and hyper-inflexible centropoly we have today. Here I add to the historical literature by explaining the myriad changes reformers wove together to unify what once represented diverse community interests, monopolize schools that once operated independent of such protection, and centralize what was once decentralized.

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[8] Indeed, later the work of Elinor and Vincent Ostrom, regarding successful efforts by communities to overcome community ("commons") challenges absent centralized control, would reinforce Tocqueville's impression. (See, e.g., Cole & McGinnis (Eds.), 2015; Boettke, Lemke, & Palagashvili, 2015.). Although public education could have benefitted from the Ostroms' model, reformers took it in a different, and more centralized, direction.

"Exigencies of an Earlier Era": Formation of the U.S. School System and the Dawn of the Centropoly

Considerable support exists for state educational oversight. Early philosophers such as Plato and Locke defended education as fundamental to the well-being of a society. The issue in the U.S., however, is not *that* American states took control of their schools, but rather, *how* they did so. Importantly, American reforms led to centralized, bureaucratic, and monopolistic control.

Contrary to what public education has become, informal organizations drove early American school efforts. Public schools began with both public and private roots as individual, voluntary efforts in small communities before the nation's establishment.[9] In some areas private schools were permitted to operate in community schoolhouses. In other areas, parents and others volunteered to form and operate schools. Legislators permitted and funded still other schools *via* a "rate bill", for which only the users of the school would pay (Cubberley 1916, 4). In fact, education in America did not begin as a *system* at all, let alone a centralized one. Cubberley (1916, 3) notes that, since the U.S. Constitution does not mention "any form of education for the people" nor was education mentioned during the debates of the Constitutional Convention, "education became one of the many unmentioned powers 'reserved to the States'" under the Tenth Amendment to the U.S. Constitution.

A country as large and diverse as America, however, is bound to be affected by many forces. Among them for schools, concerns developed around diversity itself. Reformers uneasy about the country's growth and diversification in many aspects, including religion, culture and

[9] The nation's response to the 2020 pandemic has included a return to small-group schooling (often referred to as "pods", micro-schools, or hybrid homeschooling). See, e.g., Watson (2020); Burke (2020; and Manning Kennedy & Kerr 2020.

race, industry, and population density, began to exert more control over the relatively unconnected schools in individual communities.

These reforms were not carefully planned; instead, they occurred in piecemeal fashion over time and through various social and cultural changes. As Hess (2010, 40) explains, frequently defenders of the current public school system "impute … [a] high-mindedness to what are in fact makeshift responses to the exigencies of an earlier era." In this paper, I employ instead a perspective of historical mindfulness to what these exigency-based reforms have actually produced in the aggregate.

The Early Influences: Religions, Wars, and the Beginning of a Centralized Structure

Before the Revolutionary War, schools were community-centered and largely religion-focused, a logical arrangement when religious congregations were the dominant forms of social organization. Early school organizational efforts were interwoven with religion.

For example, in 1647 Massachusetts adopted what became known as the Old Deluder Satan Act. Known as the first compulsory education law in America,[10] the Act clearly identified its purpose as maintaining true "knowledge of the Scriptures" instead of being "clowded by false glosses of Saint-seeming deceivers" (Old Deluder…, https://www.mass.gov). Despite its stated religious purpose, the Act only required towns of 100 or more to provide a Latin grammar

[10] Although the law was indeed compulsory, Hazlett (2011, Abstract) notes it and other similar compulsory education laws were not "strictly enforced until Horace Mann advocated schooling for all, with his Common School Movement leading to free, public, and locally controlled elementary schools, beginning with Massachusetts in 1852."

school.[11] [12] "Old Deluder" is arguably a precursor of laws that, while requiring towns to provide education for all children, could have allowed towns to direct education as each saw fit. [13] [14]

Ultimately, however, the anti-Deluder model did not prevail. Cubberley (1922, 356) [15] observes that the half century after the Revolutionary War could be seen as a transitional period from church to state control of education. Common School leaders concerned about post-War educational decline began to focus not only on providing similar content, but on providing that content *via* a similar structure, to all children including those who otherwise could not afford an education. [16]

Beginning around 1825, new cities arose and older cities began to grow, hence transforming the nation's previously rural, agricultural, and pioneer character. Educational and

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[11] Latin grammar schools, having originated in Europe, were essentially college preparatory schools. The first one in America was the Boston Latin School, established in 1635, also known as the first public school in what would become the U.S. (*National Geographic* at https://www.nationalgeographic.org/thisday/apr23/first-public-school-america/) Hess (2010, 41) notes that "Historian Gerald Gutek has observed, 'The colonists believed in a two-track system of schools – one for the poor and another for the wealthy.'" Latin schools, he says, were for upper class (male) children.

[12] Hazlett (2011, Abstract) notes that "[the] law's title was derived from its purpose, as teaching youth to read allowed access to the [Protestant] Christian *Bible*, with their presumably subsequent faith and doctrinal adherence producing virtuous citizens…."

[13] In fact, Vermont and Maine established the first school voucher programs in the U.S. Implemented in 1869 and 1873, respectively, the states' town tuitioning programs provide for towns without a public school to provide tuition to send their students to a public or private, non-religious school in another location. (EdChoice, last modified August 29, 2019, America's School Choice Programs…)

[14] Additionally, early American schools were more likely to be religiously diverse (at least in terms of Christian denominations), given the fact immigrants to America frequently had escaped religious persecution (van Raemdonck & Maranto n.d., 4).

[15] Ellwood P. Cubberley was both an academic scholar and a (progressive) thought leader in the field of education. Here, I use his historical writings. Some have questioned Cubberley's historiography because of his point of view regarding the formation of the U.S. school system. See, e.g., Cartwright, 1996.

[16] The Common School movement had roots in philanthropic group efforts. Philanthropic groups began founding schools through the Sunday School movement, providing both religious and minimal secular learning; the City School Societies, fashioned after the English charity schools to provide a rudimentary education to the poor; the Lancastrian (or monitorial school) movement, a system under which the more advanced students taught less advanced students; and the Infant-School Societies, establishing schools for children between the ages of four and eight (Cubberley, 1922, 357-363). According to Cubberley (1922, 363), "These four important educational movements … all arising in philanthropy, came as successive educational ideas to America during the first half of the nineteenth century, supplemented one another, and together accustomed a new generation to the idea of a common school for all."

social conditions changed first for people in the Central and Northern states (Cubberley, 1922). Southern states held their agrarian, slavery-based economic system until long after the Civil War ended (Cubberley, 1922, 363-364). With city growth also came large-scale manufacturing leading to the demise of small industries and of the apprenticeship system. Also, the 1810s had initiated the suffrage movement by extending voting rights to non-property-owning males. With the extension of voting rights, general knowledge and civic virtue grew in importance, lending support for educational purposes beyond religion (Cubberley, 1922, 366)

The new focus on education's importance brought changes in school structure and lesson content. National growth fueled in large part by immigrants, different from each other and from those who had settled earlier, helped spark Common Schoolers to work toward civic unification through education. Religious diversity accompanied immigration, resulting in religious tension that surfaced in the schools and school reform movements. With increased Catholic immigration anti-Catholic Protestants, including politicians and Common Schoolers, mobilized to suppress the spread of Catholicism in the schools (van Raemdonck & Maranto, n.d., 3; Hess, 2010, 87-88).

Common Schoolers focused on much more than just religious instruction. The movement's efforts to unify the delivery of American education led by extension to a perceived need for a formal structure by which to do so. Importantly, a visit to Prussia in the 1840s influenced Common School movement leader Horace Mann to advocate that schools be organized by age-based grade levels. Prussia, notes Hess (2010, 81-82), had adopted such a system to help rebuild national pride when the country faced defeat at the hands of Napoleon in the early nineteenth century. Mann approved of the orderly structure, regardless of why Prussia

had implemented it in the first place, and recommended it be adopted in the U.S. This rigid, Prussian war-inspired organizational structure, remains dominant today.

Centripetal Forces Appear: Uniformity and the Power of Progressive Ideas

American public schools became a unified system through various means. Among the more important are formation of the district system, establishment of state constitutional clauses, and creation of a mass-production teacher preparation model.

School districts

Near the time states began forming state public school systems, the growing number of individual community schools began forming into districts. Some experts saw school districts as the "natural" organizational unit, since schools whose areas adjoined did not follow extant city or township boundaries and instead became smaller and irregularly shaped school districts. Cubberley (1916, 5) states, "As a unit of organization, the district was well suited to the needs of the time…. Districts could be formed anywhere, of any size and shape, and only those families or communities desiring schools need be included in the district organization." Cubberley (and others) therefore embraced the district system, describing it as a creation of the state (Cubberley, 1916, 14).

District formation created American public school monopolies, which continue today. School district geographic boundaries provided demarcation lines, inside which resident students attended school. As districts grew, district officials further subdivided districts into school attendance or "catchment" areas (Cubberley, 1916, 6-8; NCES, 2015-16, The Boundary Collection), wherein a student attended the school located in the catchment area that includes the student's residence. State constitutional provisions and resulting state laws then codified the monopolistic district system, making it difficult to eradicate.

State constitutional clauses

Due perhaps in part to a renewed religious conflict, more states began to include education in their constitutions. Six of the fourteen state constitutions framed by 1800 did not mention education and several others did so only briefly (Cubberley, 1916, 3). As of 1834, almost half of the states had adopted education clauses. (Tractenberg, chapter draft, "An historical overview"). Between 1835 and 1912, the number of states with constitutional education provisions doubled, and most of these were explicit regarding the establishment and funding of free common school systems (Tractenberg, chapter draft, "An historical overview").[17]

Given the country's constitutional guarantee of religious freedom, one could argue the goal of religious preference is a private function as opposed to the more general social functions of literacy and citizenship. Yet, religious tension helped to solidify state constitutional education provisions. A new wave of immigrants brought religion back into focus, thereby contributing to permanent structural changes to public education. With additional millions of Catholics immigrating to the U.S. in the mid-1840s (Byrne, 2000), Catholic political power increased, and Catholics began using their power to combat Protestant efforts to de-Catholicize their children *via* the common schools. (DeForrest, 2003, II.C.). Education became more diversified in various locales, but this result was short-lived (Maranto & van Raemdonck, 2015). Ultimately this religious battle spawned several unsuccessful attempts at U.S. constitutional amendments to

[17] The anti-Catholic state Blaine amendments – arguably indicative of private motives as opposed to social functions – would become highly instrumental in the late 20th and early 21st centuries in preventing attempts to move away from this centralized public education system to one involving parental choice. Equally important, however, the amendments represent evidence that centralized state educational systems became the consequence of reformers' attempts to balance the desires for limited government, individual liberties, and natural markets against a social concern for national unity in the face of diversity. But national unity can easily evade a nation's grasp if what constitutes a "unified" view is contentious. As Hayek explains, "The common welfare or the public good has … remained a concept most recalcitrant to any precise definition and therefore capable of being given almost any content suggested by the interests of the ruling group" (Hayek, 1976, 2013, 170).

prohibit federal resources from being given to religious groups or schools. Maine Congressional Representative and presidential hopeful James Blaine proposed one such amendment in 1875 as a springboard to the office of President. Upon failure at the federal level, Blaine amendments began surfacing in states' constitutions. At this writing, 37 states have Blaine amendments in their constitutional education clauses.[18] (Parker 2016; Institute for Justice n.d.; DeForrest, 2003, II.C.).

Overall, state constitutions served to solidify the 50 partially centralized and largely monopolized educational systems into their layered, state-centralized form, thus setting the stage for a future layer – the federal government – to complete the centropoly. State constitutions generally call for the state to not only fund, but *govern* the public schools in a manner that, structurally speaking, originates at the state level. This more-or-less universal constitutional system generally sets forth a state elected individual (chief state school officer, governor) or body (state board of education) to oversee the state system. (Railey, 2017) As pointed out by Friedman (1955; 1962, 1982), a state government instead could fund but not manage or control individual schools. This important observation is predicated upon the public choice notion that, as an organization thickens, two results materialize. First, knowledge dissipates as information distance lengthens between an organization's leaders and those it serves (Tullock, 1965, 1992). Second, this increased distance further exacerbates the natural tendency for leaders' private incentives to override concern for those being served (Downs, 1967).

[18] The state Blaine amendments only recently lost their power to separate religion and public education: in June 2020, the U.S. Supreme Court ruled that states cannot exclude religious families and schools from school choice programs. (*Espinoza v. Montana Department of Revenue*, 18-1195, June 30, 2020.) (Institute for Justice,ey,ors n.d.)

Teacher Preparation

Reformers unified teacher preparation as well, lowering its quality as a result. The Common School movement spurred efforts to establish a formal teacher preparation system, and the state normal school became the Common Schoolers' major teacher preparation effort. As Labaree (n.d., 293) notes, given limited resources to establish normal schools, "normal school leaders ended up choosing relevance [reaching more prospective teachers by 'skimping on professional preparation'] over rigor [providing 'a few model teachers' with rigorous professional training]". The development of teachers' colleges in the late nineteenth and early twentieth centuries to prepare new teachers hence brought considerable uniformity, while deemphasizing content knowledge of teachers and leaders (Maranto and Wai 2020, 6).

The Progressives and Scientific Management

Progressive reformers not only further solidified a central public education vision, but also created a centralized delivery system. Continued rapid socioeconomic change including increased immigration and urbanization in the mid- to late-1800s brought wholesale transformation not only in specific areas of U.S. social policy, but also in the way policy was implemented. Having viewed the American "freedom experiment" a failure, Progressives set to work to design a system that would rein in and thus significantly reduce the influence of the *invisible hand* approaches to society and its government, exchanging them for a top-down system of control through bureaucratic governmental agencies. Centralizers thus pushed for their arguably *private* view of government – private, because it is in direct contradiction to the social functions of American government explicated in the country's founding documents.

Woodrow Wilson, 26th U.S. President and academic who advocated Progressivism, wrote prolifically on the Progressive role of government administration arguing that "a professional

class of experts" constitutes a better, more efficient way to implement policy (Pestritto, 2007, Administration and the 'Living Constitution'). He dismissed the founders' limited-government social function by stating that "administrative principles and constitutional principles [are] distinct" so constitutional principles (e.g., that of checks and balances) "interfered with efficiency and should not be applied to the exercise of administrative power (Pestritto, 2007, Administration and the 'Living Constitution')." In response to Progressive influences, policymakers began developing programs to serve particular groups of Americans or accomplish particular policy missions, with agencies employing *professional* bureaucrats. For the Progressives, the professionals, guided within a rule-bound bureaucracies, knew what was best for the public.

The Progressive reformers transformed public education. Thought leaders like Ellwood Cubberley worked to bureaucratize schools specifically to control them. While the first state systems originated in the early 1800s (e.g., New York State in 1812 [Cubberley 1916, 9]), states' educational administrators gradually began adopting the Progressives' ideas.

As mentioned previously, the school district/catchment area system resulted in a state-sanctioned arrangement of monopolies motivated to maintain their status – one that, when coupled with the Progressive-led move toward centralization and bureaucratization, tended to insulate the public school system from those it was intended to serve. Rather than considering a return to local schools, reformers doubled down on centralization, pushing harder for uniformity under growing numbers of professional "experts" who would impose supposedly "best" business practices.

In the early 1900s, Frederick Taylor's Scientific Management Theory spread into public education, first in magazines and education journals which attacked schools as inefficient and unprofessional (Callahan, 1962, 51). In 1918, the Commission on the Reorganization of Secondary Education presented the Cardinal Principles of Secondary Education, which recommended curricular content that was less academic and more uniform across schools, while at the same time tracking students within schools (Commission on the Reorganization …, 1918). Often termed the "factory model" of education, school leaders began assigning students based on age (elementary and secondary grades) or subject matter (secondary grades), largely for the convenience of school personnel. This single, "one size fits all" reform has resulted in additional problems for students, such as impersonalization and social promotion – policies gravely affecting disadvantaged students who are tracked, and passed through bureaucratic systems whether they learn or not (Doherty, 2004).

The question of how much control states should exert over their public school systems evolved erratically across states. As a thought leader, Cubberley (1916, 24-25) discussed the consideration of elements that could balance a state system between too little and too much state control. Ultimately, however, he did not equivocate on *whether* and, to a great extent, *how* the state should control the public education system by controlling the schools.

> [T]he authority and power to develop [public schools] have come from the State and *not, except secondarily*, from the community…. The school district … [was] erected for the purpose of better local administration. The State creates these subdivisions of itself and then endows them with their powers … as the best interests of the State may seem to require. It has been the people as a whole, represented in the legislature of the State, and not portions of the people here and there, who have been supreme in the matter of educational legislation (Cubberley, 1916, 14) (Emphasis added).

The Progressive reformers thus pushed for centralizing separate community schools under state, instead of community, control. They advocated placing that control in the hands of

professionals who were removed from the schools. Under public choice theory, every such move increases the distance between the decision makers and their constituencies. Mises (1949, 1998, 7) states, “There is no such thing as perfection in human knowledge, nor for that matter in any other human achievement. Omniscience is denied to man.” Building upon this fact, Tullock (1965, 1992, 76-77) expounds upon bureaucratic actors’ incentives: “While it is probable that the subordinate will know more about any given situation than his superior, it is also true that the ambitious and intelligent bureaucrat will tend to cut himself off from external reality, unless he is a conscious hypocrite. The official who is not hypocritical about his task soon learns than an active curiosity leads … to quarrels with superiors…; hence he suppresses his curiosity.”

Thus, as organizations become more centralized, organizational actors become even more separated from complete or accurate information. This fact helps to explain how and why centralization is the antithesis to optimal community action. In the case of public education, every step toward greater centralization has further distanced the decision-makers from the consumers of education (Downs, 1967; Payne, 2008).

Centropoly, Segregation, and Systematic Inequity

Apart from other educational considerations, the district monopoly system gave schools captive consumers whom bureaucrats could now frequently ignore (Bradley-Dorsey & Maranto, 2021). More egregious, however, the school monopoly apparatus has trapped large numbers of U.S. schoolchildren whose families cannot afford to move to a different district or school. This includes, systematically, disadvantaged students and many students of color.[19]

[19] Indeed, despite widespread acceptance of the Tiebout Effect theory (i.e., that the public can “vote with their feet” to pursue public goods such as schooling by moving to different neighborhoods), the Tiebout Effect is also widely disputed even for those with the financial means to move. See, e.g., Fedako, 2018.

A pointed example of the school monopoly effect can be traced through the systematic segregation of African Americans. Early anti-black public policy actions are perhaps more widely known than those occurring in the 20th century; however, the black-white gaps observed by civil rights leaders in the early 1900s (National Advisory Commission, 1968, 223) widened further with the advent of the Great Depression and the subsequent New Deal policies. Central among these policies that further disadvantaged black citizens was public housing. For example, New Deal housing, initially administered by the Public Works Administration in 1933, was rigidly segregated, and indeed created new segregated neighborhoods, as did later government housing related programs (Rothstein 2017, 20-24).

Because districts maintained geographic boundaries atop a system of racially and economically segregated communities, the "common" school system envisioned by Mann, Cubberley, and others served educational communities whose needs were anything but uniform. Given racial and economic segregation, the children enrolled in these "uniform" schools differed markedly across districts – and within districts' schools – hence rendering education and its delivery unequal. Beginning in the mid-twentieth century, awareness of this inequality grew and fueled a massive reform movement at the federal level. I turn now to the largest federal reform initiative and argue that these external efforts ultimately were attempts to reform the extant, flawed system of vastly unequal schools serving markedly different student populations. Instead, though, the resulting educational system grew in the U.S. and its bureaucracy strengthened, increased in complexity, and hardened into a hybridized centropoly, ill-equipped to deal with the problems it attempted to address regarding the needs of the vastly diverse American student population in a rapidly changing world.

One of the most grievous overarching repercussions of American educational reforms can be explained by examining this formalized school segregation in terms of public choice, specifically, with what Downs (1967, 144-166) referred to as control processes and the rigidity cycle. As bureaucracies grow, control increases through processes such as monitoring and the creation of monitoring agencies (Downs, 1967). Operating bureaus respond by assigning personnel to provide information to the monitors – information that sheds the best light possible on the operating bureau. "In potentially controversial matters," notes Downs (1967, 152), "they often devote extra resources to 'beefing up the record' to provide ample justification for their behavior." Downs describes the rigidity cycle as what happens to some bureaus as they grow larger – effects I ascribe to the centropoly. Layering additional government levels automatically increases an organization's size. Leaders' resulting "leakage of authority…. leads to … a growing rigidity of behavior and structure within the bureau…" (or, in this case, within the hybridized super-bureau). Control by monitors results in "ever more complex and ever more restrictive regulations upon the operating [super-] bureau…. [T]he bureau also tends to devote ever more resources to figuring out ways of evading or counteracting the monitors' additional regulations (Downs, 1967, 159). The author also notes that specialization increases and operating authority escalates (Downs, 1967, 159), resulting in the "incapability for fast or novel action" (Downs, 1967, 160).

I demonstrate these effects to some extent in Chapter 3, which first carries on the history of American public education by summarizing the Elementary and Secondary Education Act (ESEA) and its reauthorizations and other amendments. I then explore several consequences of the many policies adopted, including an empirical examination of ESEA's influence on state and

local staff growth. I conclude by summarizing evidence of the consequences in both theoretical and student outcome terms.

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Chapter 3 – Good Intentions Gone Awry: The Centropoly Thickens[20]

Introduction: When Help Turns to Harm

In *Doing Bad by Doing Good*, Christopher Coyne (2013) addresses the problems of humanitarian action by summarizing its crucial elements through a public choice lens. Although humanitarianism is driven by normative principles – i.e., the morality of helping those in need – Coyne analyzes humanitarian action instead through a focus "on the *ability* of outsiders to effectively engage in humanitarian action whether or not there is a moral imperative to do so" (Coyne, 2013, 12-13). Coyne analyzes "ability" in terms of the system in which state-led humanitarian action operates, and he argues that the system is woefully inadequate – not only to produce positive humanitarian outcomes but also because it can cause harm in the form of, for example, further inhumane actions.

I offer here a partial corollary analysis of public education and the public education actors who, failing to acknowledge the history of the centropoly, perceive of its schools as the moral solution to K-12 education and view repairs to the system, through the injection of federal policy and accompanying funding, as the appropriate solution. After having provided the formative history of the centropoly in Chapter 1, here I summarize the reform history that began in the mid-twentieth century to repair a glaring problem of the "reformed" American public educational system: what to do with the disadvantaged students who languished in the centropoly's schools. After detailing the advent of the Elementary and Secondary Act of 1965 ESEA) and its multiple later amendments, including the No Child Left Behind Act (NCLB), I examine empirically the

[20] This chapter and Chapter 2 together, in large part, comprise the following forthcoming book chapter: Bradley-Dorsey, M. (Under Contract). "Rise of a *Centropoly*: Good Intentions, Distorted Incentives, and the Cloaked Costs of Top-Down Reform in Public Education" (working title), in Candela, R.; Fike, R.; and Herzberg, R., *Institutions and Incentives in Public Policy: An Analytical Assessment of Non-Market Decision-Making* (working title). Under contract with Rowman & Littlefield International.

association between ESEA's amendments and relative state and local public education staff growth. I then briefly discuss the extent to which the educational condition of disadvantaged students has changed, if at all.

Dysfunctional Reform for the Disadvantaged: The Elementary and Secondary Act of 1965 (ESEA)

School segregation, propagated by educational, housing, and economic public policies, set the course for the famous 1954 *Brown v. Board of Education* U.S. Supreme Court decision that "[t]he 'separate but equal doctrine adopted in Plessy v. Ferguson … has no place in … public education."[21] President Eisenhower's 1957 decision to send troops to Little Rock evidenced the slow response to the 1954 *Brown* decision (Clark 2020). Dr. Martin Luther King, Jr.'s famous "I Have a Dream" speech preceded the Civil Rights Act of 1964 by approximately one year and ESEA by less than two years. The mid-1960s brought President Lyndon B. Johnson's Great Society and War on Poverty. The Civil Rights Act expressly prohibited school segregation, deeming invalid state and local laws permitting such segregation, yet public school leaders had already established and continued to maintain government monopolies *via* district and school catchment area boundaries. ESEA, intended to improve the educational outcome of students disadvantaged by low income, was considered a major part of the War on Poverty. Its spotlight intervention: funding targeted to district public schools with large low-income student enrollments.

Many expressed concerns regarding federal intervention into education prior to ESEA. As an early example, even before calls came to focus federal attention on America's

[21] See, e.g., "Transcript of Brown v. Board of Education (1954)."

disadvantaged, the most significant education legislation had been the National Defense Education Act of 1958 (NDEA). A direct response to Russia's launching of Sputnik, NDEA authorized funding for teaching specific secondary school subjects such as math and science. Although dwarfed in size by ESEA, Senator Barry Goldwater warned, "'If adopted, [NDEA] will mark the inception of aid, supervision, and ultimately control of education in this country by federal authorities'" (Collins, 2014, 9) (Internal references omitted).

Reformers pursued funding focused on education for America's poor soon after NDEA's passage. But these federal reforms faced obstacles, such as the role of the federal government in education, inclusion of religious schools, and mistrust of local school district officials. President John F. Kennedy's Aid to Education bill failed in 1961, in large part because it excluded aid to private schools. (Sorensen 1965, 360).

During the debate preceding ESEA, civil rights activists argued that public school administrators had placed low priority on education for disadvantaged students and that the schools had been unresponsive to these students' needs (McLaughlin, 1974).[22] An anonymous civil rights activist stated forthrightly, "Title I will be money down a rathole unless it includes some measure to protect the interests of poor children" (McLaughlin, 1974, 1). Democratic Senator Robert F. Kennedy expressed similar concerns during the 1965 Congressional hearings on ESEA. Kennedy noted that "… the school itself has created an educationally deprived system" (McLaughlin, 1974, 4). Kennedy made a last-minute demand for an amendment to the legislation mandating reports of educational achievement. "'What I want to make sure of is not just that the money is not wasted, because you can find more money, … but the fact that the lives

[22] For example, ten years after the momentous *Brown v Board of Education* U.S. Supreme Court decision ordering school desegregation – and one year before passage of ESEA – the vast majority of African American students in the South still attended segregated schools (Sunstein 2004).

of these children are not wasted,'" he stated (Thernstrom & Thernstrom, 2003, 215). The Senator's demand for achievement evidence, however, resulted only in a requirement that districts or state education departments receiving federal funds file an annual report (Thernstrom & Thernstrom, 2003, 215). Innocuous though well-intentioned, this language would lay the groundwork for the use of statewide achievement testing to evaluate schools instead of focusing on individual student success (Koretz, 2008).

Summary: The Original Act and its Amendments

Enacted in 1965, ESEA marked the onset of rapidly growing federal involvement in education – which, in turn, further centralized public education, thickened educational bureaucracy, and solidified into the centropoly. The chain of amendments and reauthorizations itself illustrates the rapid increase of this hybridized government organizational structure.[23] Together with its eight reauthorizations and several other weighty amendments, ESEA has been the single most significant federal education legislation in the U.S. According to Klein (2015), "… [F]or the most part, each new iteration has sought to expand the federal role in education." The only federal education legislation to surpass the original 1965 Act in scope has been some of its reauthorizations, most notably the No Child Left Behind Act (NCLB), which will be discussed in detail later.

The original 1965 Act consisted of five titles,[24] of which Title I was the Act's focus (Collins, 2014, 14). Title I, "Financial Assistance to Local Education Agencies for the Education

[23] School district consolidation is arguably another policy designed to correct underlying systemic problems while creating or exacerbating extant problems. Driven largely by policy makers' desire to improve efficiency, the number of school districts nationally has dropped from more than 127,500 in 1932 to fewer than 20,000 in the early 1970s and fewer than 15,000 in the 2001-02 school year (Coulson, 2007). As researchers find diminishing returns to the efficiency of larger districts, it is also noteworthy that larger organizations frequently result in further centralization, hence greater separation from information.

[24] The Act also included a title for "general provisions."

of Children of Low-Income Families," originally funded at $1.06 billion, authorized the provision of assistance to schools with large proportions of low-income, "educationally deprived" students *via* formula-driven grants to compensate for this educational deprivation by providing additional funding specifically for these students. Titles II through V created several additional programs, hence adding to federal educational intervention (Collins, 2014, 14-20; McGuinn & Hess, 2005, 295-6). Ironically, the original Act expressly prohibited federal control of education (Collins, 2014, 16). However, with successive reauthorizations came additional programs and requirements. Congress has amended ESEA many times to contain provisions and government bodies relating to education for disabled students, bilingual education, and other programs and entities. It is certain, however, that these programs contributed to government growth at all three government levels: federal, state, and local. Each successive law added funding, government bodies, or staffing, or a combination thereof. Not all the amendments addressed the needs of the originally targeted student groups, but they contributed to federal centralization of education through funding, requirements tied to receipt of the funds, and other, perhaps unanticipated, incentives resulting from law changes.

Congress reauthorized ESEA every three years during the first fifteen years, increasingly focusing on "resource accountability," e.g., ensuring the funds were spent on schools enrolling low-income students and students with lowest achievement levels (Puma & Drury, 2000, 3). Schools frequently used "pull-out" programs for eligible students wherein remedial teaching staff removed students from the regular classroom to instruct them. Criticism of pull-out programs led to a 1978 amendment which allowed for schools whose enrollment was at least 75% low-income to focus on school, instead of individual student, improvement (Puma & Drury, 2000, 3). The local matching fund requirements, still in place, kept most schools from

implementing schoolwide programs (Puma & Drury, 2000), but this changed in 1988 when Congress discarded the local match requirement.

The 1981 reauthorization under Reagan constituted an attempt to reduce federal intrusion into public education. Under Reagan, federal regulations were reduced from 75 to 14 pages, and Title I – the largest ESEA-funded program – was renamed Chapter 1 (though this changed back in later legislation). The 1988 reauthorization began to focus on "'program improvement' efforts" where Chapter 1 students showed inadequate gains in achievement (Puma & Drury, 2000, 3).

The law changed again with the 1994 reauthorization. Two important revisions were a mandate that all states adopt standards-aligned assessment systems by 2000-01, and a reduction in the poverty-rate threshold, for operating a schoolwide Title 1 program, from 75 to 50% poverty (Puma & Drury, 2000, 4-5).

In summary, ESEA's evolution so far had led to promotion of external, school-based accountability while reducing focus on student-targeted improvement provisions. But reauthorizations to this point were minor steps when compared to the changes coming through the No Child Left Behind Act (NCLB) under George W. Bush. [25]

No Child Left Behind Act: Sea Change in Federal Intervention

Other than the original Act, the No Child Left Behind Act (NCLB) exerted the greatest impact compared to the other ESEA reauthorizations. Enacted in 2002, NCLB "… effectively scaled up the federal role in holding schools accountable for student outcomes." (Klein, 2015).

Arguably NCLB's most important element is made obvious from the Act's title: *No Child* was to be ignored, translated in the Act as focusing on disadvantaged students. As Kymes (2004)

[25] Appendix A contains a table of all major ESEA amendments, including the eight reauthorizations.

notes, research conducted by Bush's administration "concluded that many present-day educational systems were still attempting to serve a population that has not existed since the 1950s…." The country's disadvantaged had long since become not simply those who weren't interested in academics, but students who, more pointedly, were tied to factors anchored in the histories of minorities and the poor.

Ironically, then, NCLB represented a recognition that the same problems existed which the original Act was purposed to address nearly four decades earlier. Even though the goal of the original ESEA was to improve educational outcomes of this student group, NCLB made specific demands that attempted to ensure districts and schools would not ignore disadvantaged students. These demands included mandatory reporting at student subgroup levels (e.g., income and race or ethnicity), so that districts and schools could not hide achievement gaps by averaging overall student performance.

Second, and relatedly, NCLB was the first-ever federal attempt at an outcome-based educational accountability system. Previous ESEA iterations contained provisions that focused on aspects of accountability, such as testing and reporting, but NCLB contained a federal mandate that states meet specific outcome measures. Prior to this, several states had adopted standards- or outcome-based accountability programs beginning in the 1980s and continuing into the '90s. The state-level programs grew out of concerns arising from *A Nation at Risk*, a 1983 report describing America's educational system in dire terms.[26] [27] [28]

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[26] Considered hyperbole by some, the report claimed: "If an unfriendly foreign power had attempted to impose on America the mediocre educational performance that exists today, we might well have viewed it as an act of war." See *A Nation at Risk,* April 1993, paragraph 2, at https://www2.ed.gov/pubs/NatAtRisk/risk.html .

[27] By 2000, 48 states were involved in standards-based accountability systems. The state plans varied in content, implementation, and success levels.

[28] *A Nation at Risk* also catalyzed a lot of the federal efforts in the 1980s and onward. See, e.g., Vinovskis (2009).

Many found themselves still aware that America ranked in the middle among other nations regarding educational performance (Hanushek & Luque 2003, 485). Some concluded action was needed at the national level – again, doubling down on externally-sourced, top-down reform (Downs, 1967).

The cornerstone of the NCLB accountability provisions was the requirement that all students, with rare exceptions, reach the "proficient" level on state math and reading tests by school year 2013-14. Under the law, each state was required to (a) define the test score levels that met the state's "proficiency" designation, and (b) set and meet its annual targeted "Adequate Yearly Progress" (AYP), or percentage of students achieving at the state's self-prescribed "proficiency" level for each year.

Consequently, state testing became an integral part of the newly mandated high-stakes accountability system created through NCLB.[29] States had to create tests to measure students' proficiency status in math and literacy in specified grades, while reporting also on student subgroups such as those from low-income families, those with limited English proficiency, and students with disabilities.

This testing itself changed administrator and teacher behavior toward their students, as well as student learning behaviors and outcomes. According to Koretz (2008, 47) in the U.S. the "primary [function] of large-scale achievement" testing changed from helping individual *students* (*via* diagnosis) to group-based accountability (holding schools, districts, and teachers accountable) – the latter being precisely the purpose of NCLB-based testing.

[29] As mentioned previously, however, not all aspects of the NCLB accountability system were mandatory. The Act permitted states to set their own proficiency (and other achievement) levels.

ESEA (and particularly, the NCLB reauthorization) therefore helped create the *organizational* accountability movement.[30] The concern about disadvantaged students, which resulted in the Act's passage, evolved into measurement of disadvantaged student progress, which then drove the group-based testing accountability movement (Koretz, 2008, 54). This progression represented a step in the incremental march toward a more centralized and bureaucratic institution, as the focus became even more centered on the success of the school instead of the success of the student.

This well-intended testing mandate is a prime example of centralization gone awry. The mandate took attention away from the constituents – students – as public school system employees focused on ways to make their institutions look better, or at least deflect punishment. All such behaviors reflect the "circling of wagons" around the institution itself – precisely the behavior that public choice theorists had described (e.g., Downs, 1967).

During the latter years of NCLB, raising AYP (the percent-proficient measure) became increasingly difficult for states. Supporters and critics alike began to question whether it was possible to reach the 100%-proficient goal for all students. Because of this and other factors, the federal Education Secretary implemented a directive allowing for a waiver from the continued mandated increases. Called the ESEA Flexibility Waiver, the U.S. Department of Education (USDOE) waived states meeting certain requirements from the mandate to continue increasing their proficiency levels. Forty-two states received flexibility waivers under NCLB (Balingit, 2015).

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[30] One could analyze the transformation from student to organizational focus, resulting from just the NCLB, in great detail. Another such example is that the federal government revised its AYP target requirements to allow for states to meet AYP in a particular year, by improving subgroup performance while not meeting its stated targeted goals. See, e.g., Schools Seek 'Safe Harbor' from 100 Percent Proficiency, 2008.

However, many of NCLB's institutional effects survived. By holding districts and schools accountable – perhaps a natural policymaker inclination, given schools' prior performance regarding disadvantaged students – the Act served to focus on the organization and not on the students themselves. In other words, students became the instruments to reflect school and district success, rather than the constituency to be served.

ESEA: Connections to Government Growth and Centralization

Though difficult to measure in a causal sense, ESEA has had a dramatic impact on government growth and centralization both directly and indirectly. Several indicators of this growth and centralization apply at all government levels and can be attributed, at least in part, to the adoption of ESEA and its subsequent reauthorizations.

Federal Funding

While not the sole cause of federal education funding increases, ESEA has figured prominently and remains an important funding source. The following provides a summary of federal elementary and secondary education funding in general and ESEA specifically.

As illustrated in the first panel of Figure 2, federal funding for elementary and secondary education (constant dollars) rose from $5 billion in FY 1960 to $20 billion in FY 1970, the year of the second ESEA reauthorization. By FY 1980 spending had increased to a $29.7 billion high. That year was followed by a sizeable and sustained spending decrease (as measured in constant dollars) that lasted until after the fifth ESEA reauthorization (FY 1988). Revenues climbed for the next approximately two decades with additional fluctuations, including a dramatic spike due to the Great Recession, and then declined abruptly after the Great Recession to approximately $57 million. Apart from the relatively flat funding during the 1980s and the abrupt decline

following the 2010 Great Recession-related spike, total federal elementary and secondary education funding (in current dollars) generally has continued to rise over the decades.

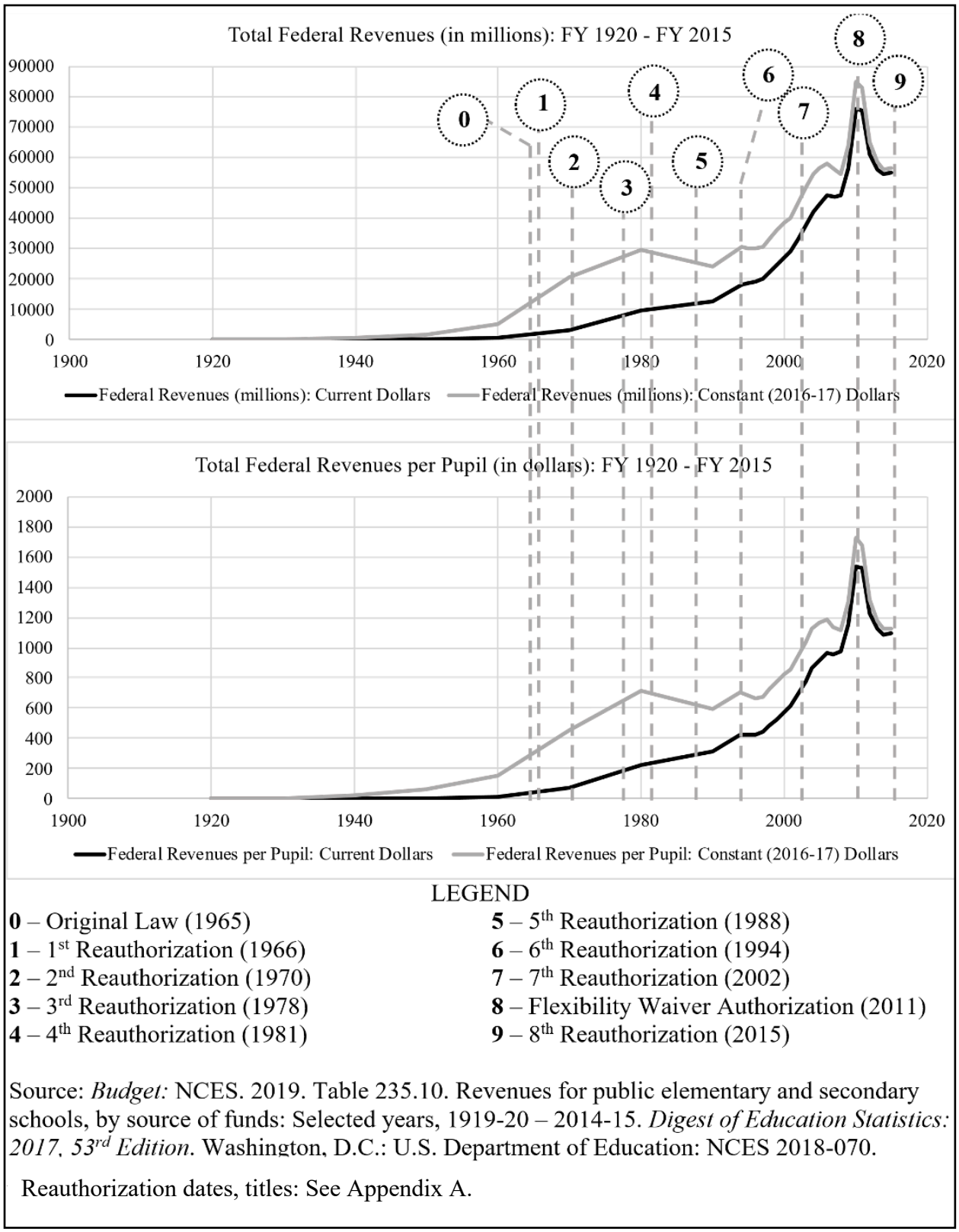


Figure 2. Federal Revenues for Elementary and Secondary Schools: FY 1920 – FY 2015

Figure 3 represents the funding history of Title I grants to local education agencies (LEAs),[31] evidencing the dramatic funding increases from just the largest ESEA program. As shown in Figure 4, ESEA Title I grant funding historically has fluctuated from between 20 and 39 percent of total federal elementary and secondary education funding. In 2018, ESEA comprised 29 percent of federal K-12 education funding.

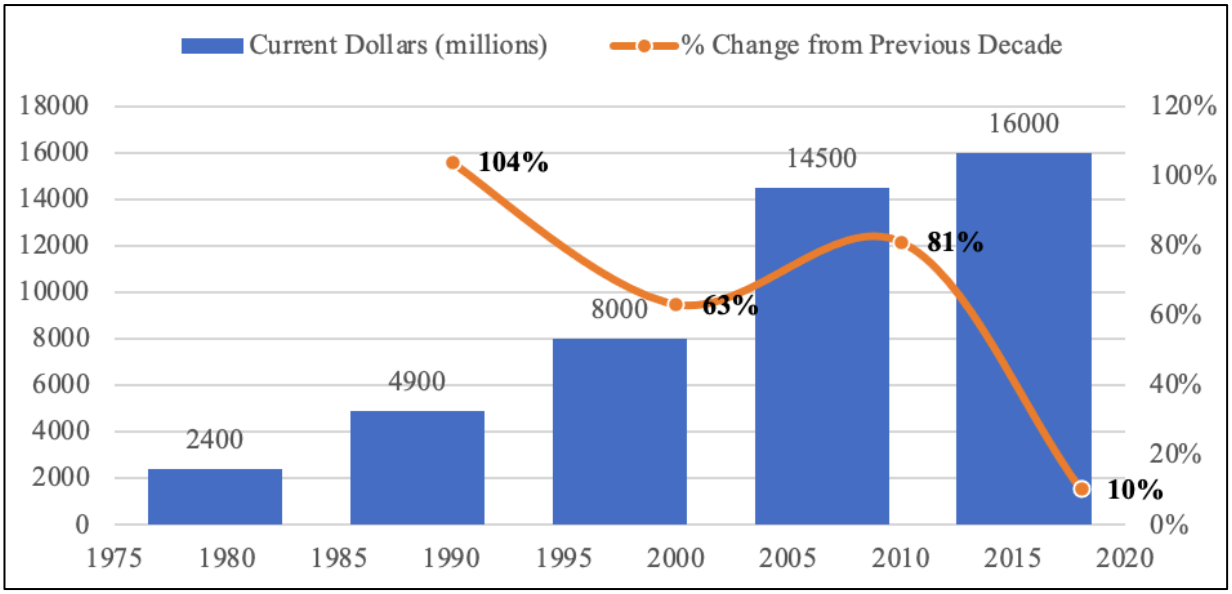


Figure 3. ESEA Title I Grants to Local Education Agencies: Appropriation Amounts for FY 1980–FY 2019
Source: Education Department Budget History Table: FY 1980-2021, at https://www2.ed.gov/about/overview/budget/history/index.html.

[31] According to ESEA, a local educational agency (LEA) is "a public board of education or other public authority legally constituted within a State" for control of public schools (USDOE, n.d., "Definitions").

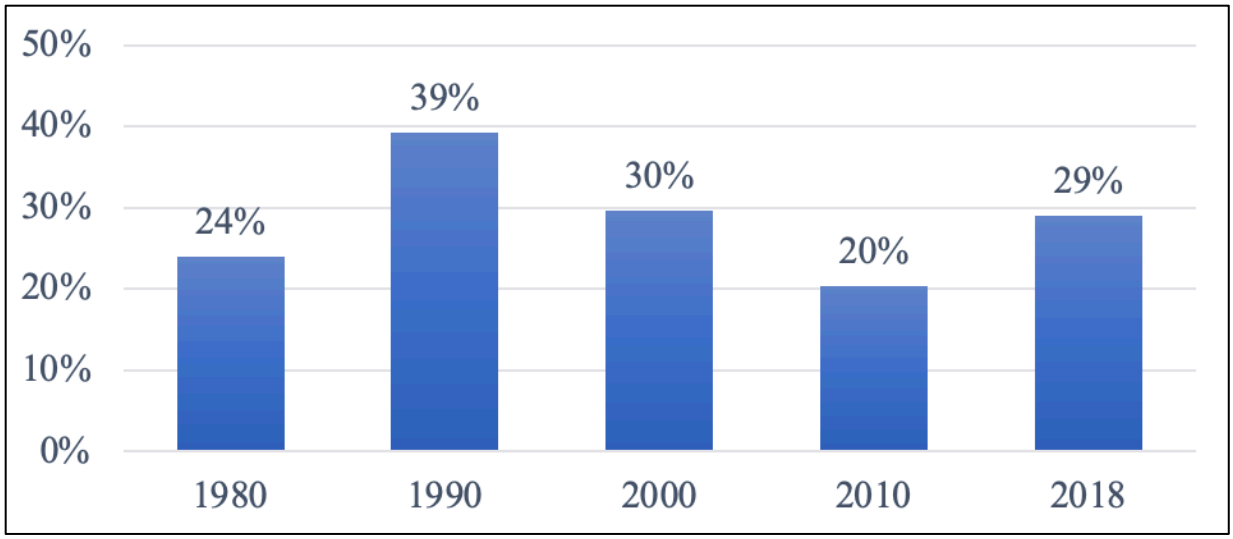


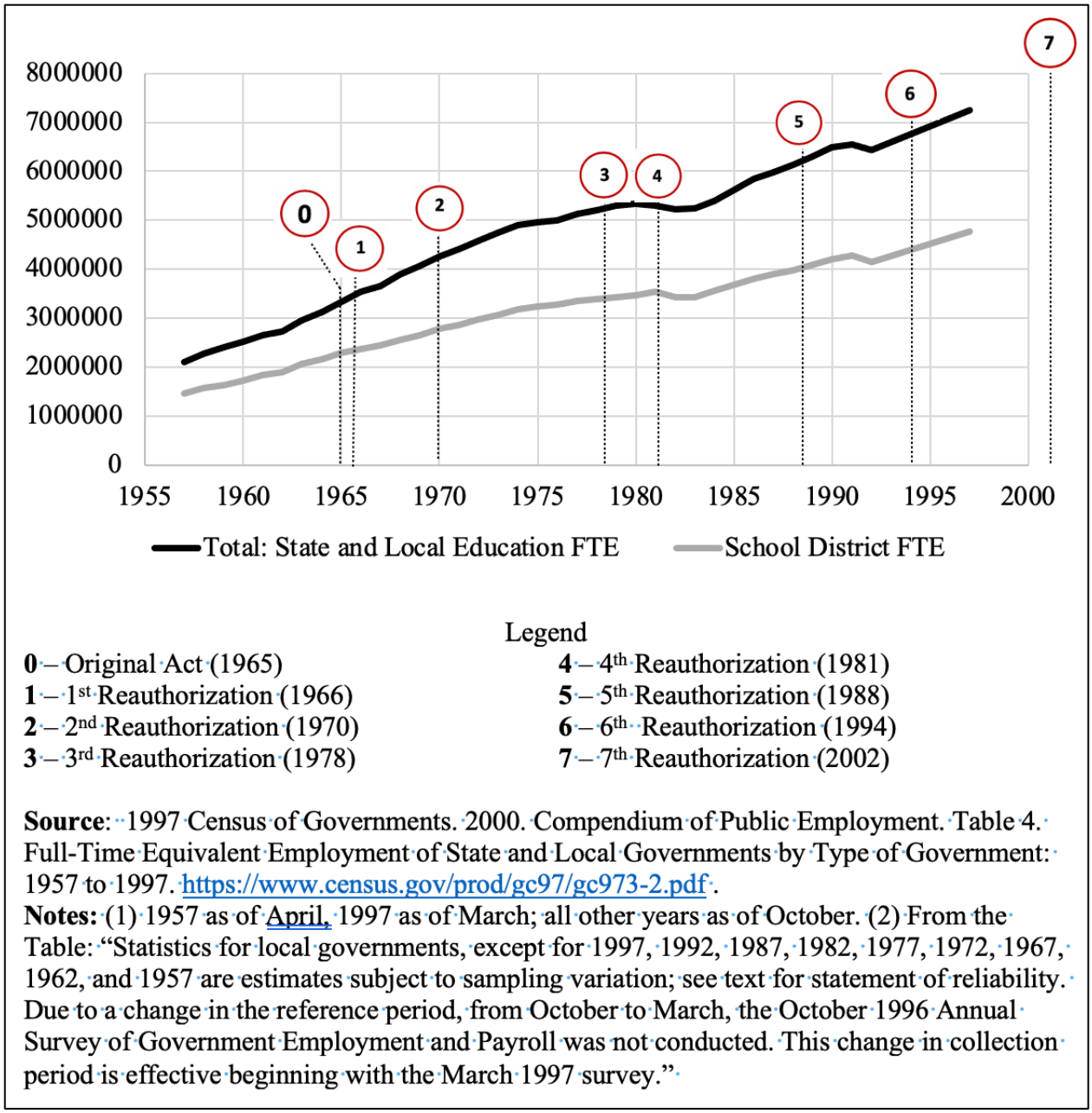
Figure 4. ESEA Title I Grants as a Percent of All Federal Education Revenues: Current Dollars
Source: Education Department Budget History Table: FY 1980-2021, at https://www2.ed.gov/about/overview/budget/history/index.html.

In recent fiscal years, the amount of federal ESEA funding has stabilized at around $14 - $16 billion. In FY 2017, ESEA Title I funding was just over $14 billion, and total federal funding for public school education was over $57 billion. Total federal revenues per pupil, based on the $57 billion amount, was more than $2,000 (NCES, 2020, 7).

Staffing: Federal, State, and Local Levels

As with federal funding, the number of federal full-time equivalent (FTE) education staff for public school education functions has increased markedly since the passage of ESEA. As of 1965, the Office of Education, within the Department of Health, Education, and Welfare, employed more than 2,100 people. Forty-five years later, in 2010, the U.S. Department of Education (USDOE) employed almost 4,300 people. The federal public school-related workforce increased dramatically with the upgrade of the federal education function to a cabinet level agency in 1979. Before the change the Office of Education had approximately 3,000 employees (USDOE, 2010).

The staffing increases were not confined to the federal government, however, since ESEA and its reauthorizations contain specific powers and duties for both state education agencies (SEAs) and LEAs. Figure 5 provides a historical overview of staffing changes at the state and local public education institutional levels between 1957 and 1997. As shown, school district FTE staff grew from fewer than 1.5 million FTE in 1957 (0.9% of the total U.S. population) to about 3.9 million in 1997 (1.4% of the total U.S. population). Total state and local staff grew from about 2.0 million FTE in 1957 to more than 7.0 million in 1997. Subtracting, this means the number of FTE positions for state agencies grew over the same period from 0.5 million to about 3.1 million. State agency personnel include employees hired to support or oversee state educational programs and policies.



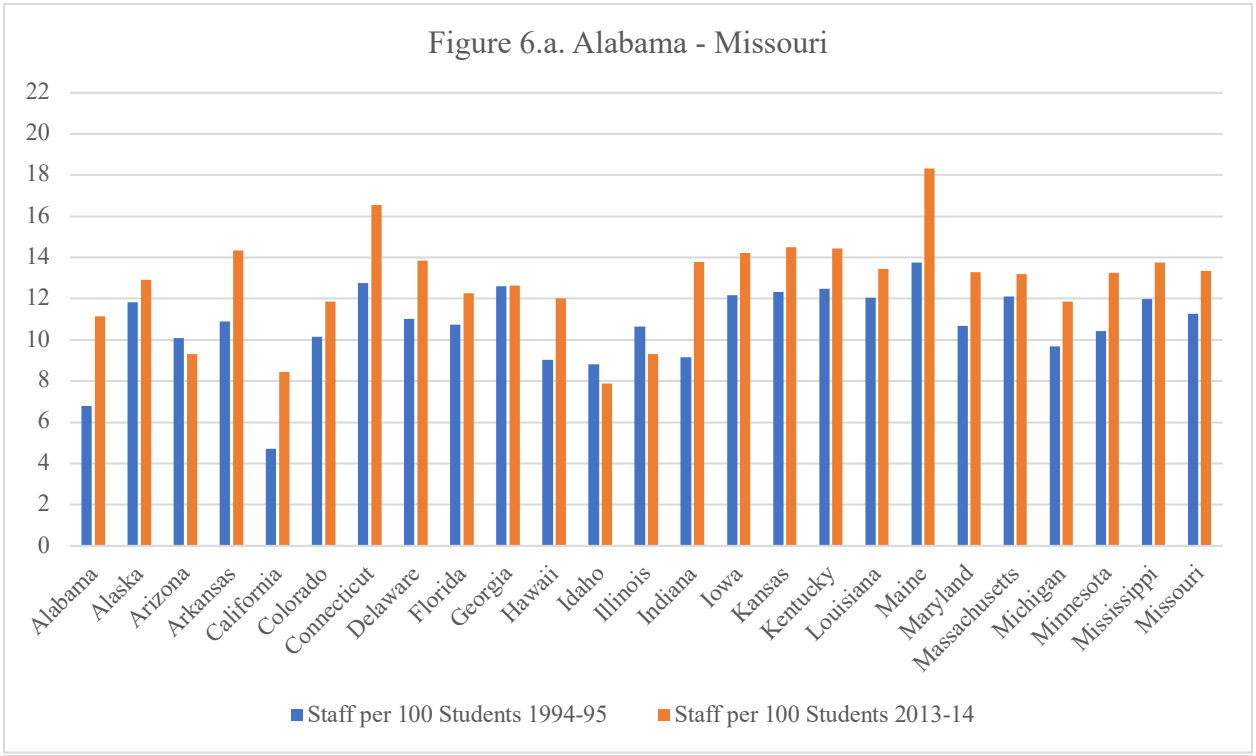
Source: 1997 Census of Governments. 2000. Compendium of Public Employment. Table 4. Full-Time Equivalent Employment of State and Local Governments by Type of Government: 1957 to 1997. https://www.census.gov/prod/gc97/gc973-2.pdf.
Notes: (1) 1957 as of April, 1997 as of March; all other years as of October. (2) From the Table: "Statistics for local governments, except for 1997, 1992, 1987, 1982, 1977, 1972, 1967, 1962, and 1957 are estimates subject to sampling variation; see text for statement of reliability. Due to a change in the reference period, from October to March, the October 1996 Annual Survey of Government Employment and Payroll was not conducted. This change in collection period is effective beginning with the March 1997 survey."

Figure 5. Full-Time Equivalent Employment of U.S. State and Local Public Education Agencies: FY 1957 – FY 1997

The student-to-staff ratio provides another illustration of public education employment increases over time. In FY 1950, the number of students per staff member was 19.3 (Maranto & McShane 2102, 28). By FY 1993 the ratio had dropped to 10.1. From FY 2000 to FY 2018 the

ratio has hovered between 8.0 and 8.9 except for FY 2015, when the ratio jumped to 9.4. The ratio for FY 2018 was 8.5.

Figure 6 (divided into panels 6.a. and 6.b) provides a state-by-state comparative illustration of the change in the proportionate number of local public school FTE staff, i.e., per 100 students enrolled in local public schools, between 1993 and 2013. As shown, states have differed in the staffing levels they have provided in the public schools. Also as shown, most, but not all, of the states' staffing levels increased between 1993 and 2013.



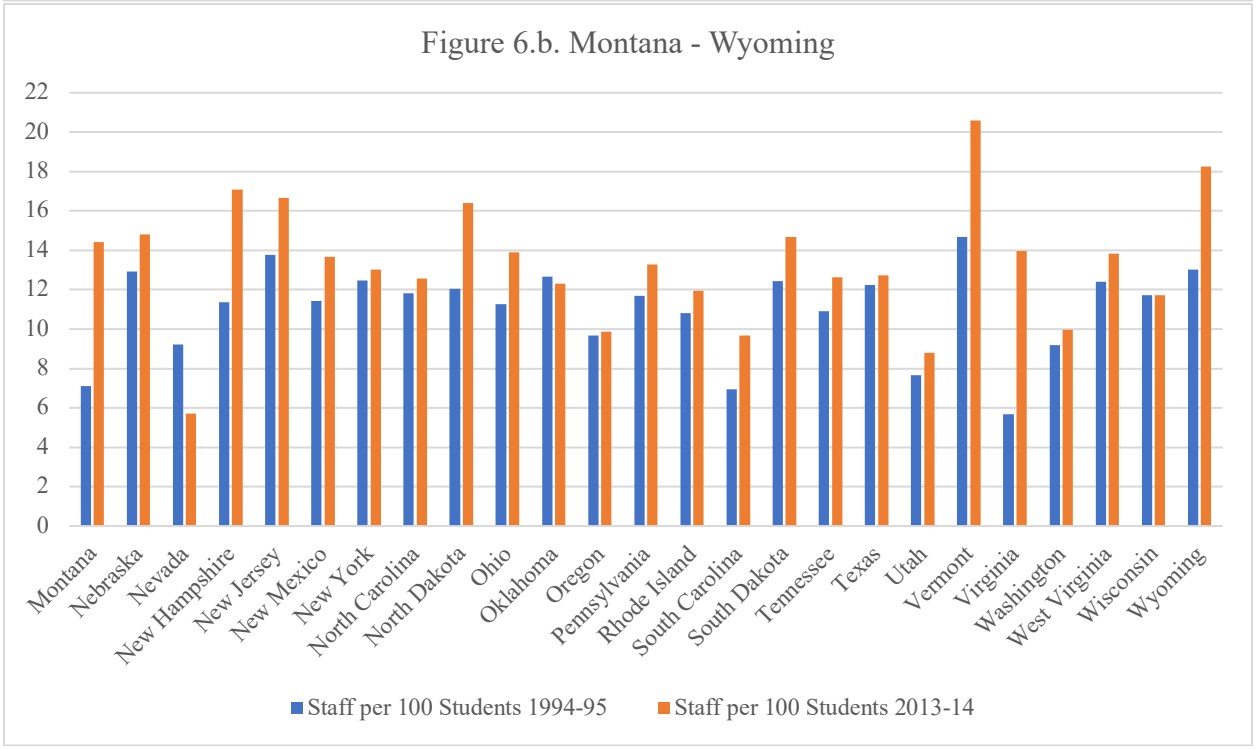


Figure 6. Local Public School FTE per 100 Students Enrolled, School Years 1995 & 2014
Source: U.S. Department of Education, National Center for Education Statistics, Common Core of Data (CCD), "Local Education Agency (School District) Universe Survey", 1994-95 v.1a, 2013-14 v.1a; "State Nonfiscal Public Elementary/Secondary Education Survey", 1994-95 v.1b, 2013-14 v.1a.

Empirical Evidence: ESEA is Associated with State and Local Staff Growth

Although the descriptive evidence appears to show general growth in staff numbers, not all states grew in staff during the more recent years, and staffing levels differed markedly among states. Here I attempt to answer a single research question: Is ESEA and its subsequent amendments related to state and local public education staffing growth? I hypothesize that the various amendments are indeed associated with staffing growth at the state (SEA) and local (LEA) levels.

In seeking literature on this subject, I examined the question both specifically to U.S. public education and more generally to U.S. governmental bureaucracies regardless of specialty. I found a rich and diverse theoretical literature, which I summarized in small part in Chapter 1. Regarding the precise question of staffing growth, either in education specifically or in U.S. governmental bureaucracy generally, I located only Scafidi (2012, 2017). Scafidi (2012, 1) notes that, between Fiscal Year (FY) 1950 [32] and FY 2009, K-12 public school enrollment increased by 96 percent, yet in the same period the public school FTE count grew 386 percent. Scafidi (2017, 3) conducts extensive descriptive work on U.S. public education staffing, noting that staffing declined from FY 2009 to FY 2012 because of the Great Recession; however, "[a]fter FT 2012, American … public school employment began growing again at a rate faster than increases in student enrollment."

The staffing surge Scafidi (2012, 2017) identifies accompanies the fact that public school organizations also have become more complex. Scafidi states the staffing increase was not driven only or even primarily by an increase in the number of teachers. Instead, during this period,

[32] Scafidi (2012) began measuring prior to enactment of the National Defense Education Act of 1958 and the Elementary and Secondary Act of 1965, both (and especially the latter) of which influenced large increases of public educational staff.

"[T]eachers' numbers increased 252 percent while administrators and other staff experienced growth of 702 percent, more than seven times the increase in students (Scafidi, 2012, 1)." Both the teaching and administrative staff influxes have revealed themselves through new staff titles, such as several mentioned in a recent Fayetteville, Arkansas school board agenda. These include federal Title I teachers and administrators, in-school suspension staff, child nutrition staff, speech pathology staff, film and TV staff, coaching staff, personalized learning staff, gifted and talented teachers, and special education teachers (Fayetteville Public Schools, 2019).

The following longitudinal, fixed-effects regression analyses provide a clearer picture of the relationship between ESEA over the years and public education staffing levels. To conduct this regression model, I obtained panel data covering multiple years for each of the 50 states from two sources: (a) 1965 – 1992 data from the U.S. Census of Governments (COG) conducted every five years, wherein I calculated the average change for the years in between the five-year intervals; and (b) the NCES Common Core of Data (CCD) for 1993 - 2009. The lack of a single, continuous data set presents a limitation. The CCD data might be preferable since annual data are available, but they do not cover the earlier ESEA years. Although the COG data were gathered only every five years, it is possible that earlier, smaller school organizations paid more careful

attention to data reporting. Either way, because there is a clear change between the two data sets, as shown in Figure 7,[33] I could not combine them.

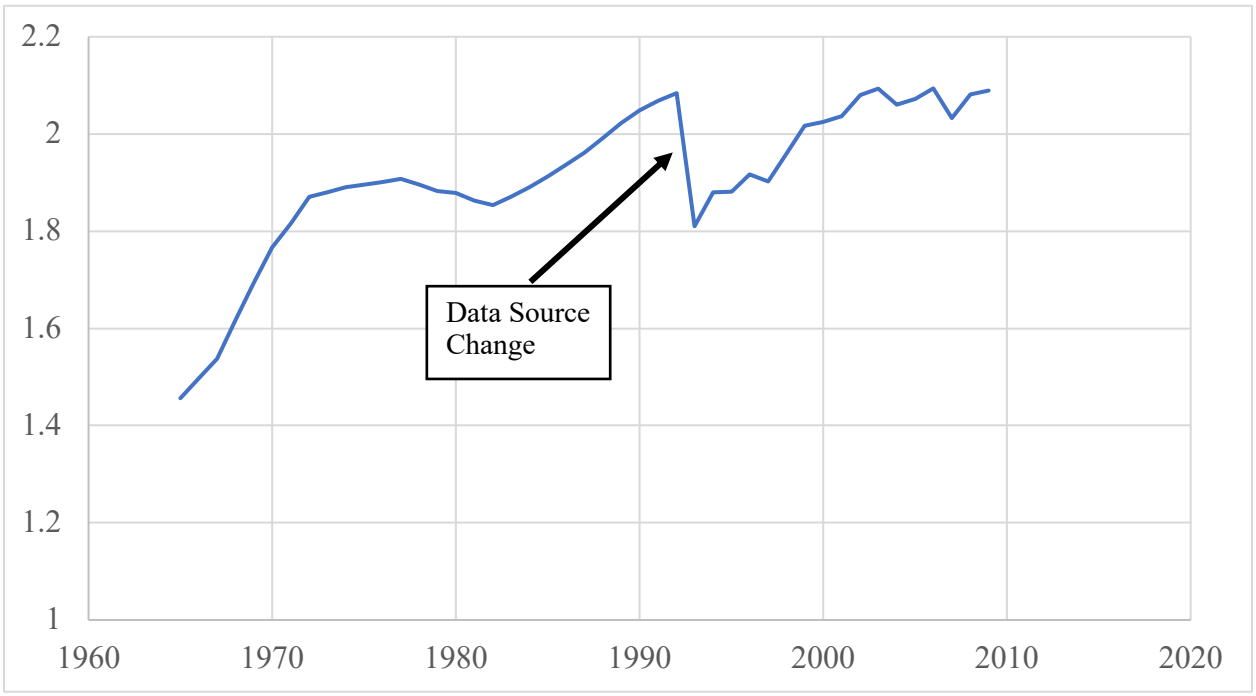


Figure 7. Mean State-Local School FTE per 100 Population Based on Different Data Sources: 1970-2009
Sources: U.S. Census, NCES. See Footnote 33 for detail.

[33] Sources of Figure 7 include the following: *Population*: U.S. Census: 1970-1980 – Population Distribution Branch, Intercensal Estimates of the Resident Population of States, 1970 to 1980; 1981-1990 – Population Distribution Branch, 1981 to 1989 Intercensal Estimates of the Resident Population of States, and Year-to-Year Components of Change (all data consistent with the intercensal estimates shown in Table 2 of CURRENT POPULATION REPORTS Series, P25-1106); 1990-2000 – ST-99-7 State Population Estimates and Demographic Components of Population Change: Annual Time Series, April 1, 1990 to July 1, 1999, Population Estimates Program, Population Division; 2000-2010 – Table 1. Intercensal Estimates of the Resident Population for the United States, Regions, States, and Puerto Rico: April 1, 2000 to July 1, 2010; 2010-2019 – Population Division, Table 1. Annual Estimates of the Resident Population for the United States, Regions, States, and Puerto Rico: April 1, 2010 to July 1, 2019 (NST-EST2019-01). *Staff:*1972 Census of Governments, Vol. 3 Public Employment, No. 2 Compendium of Public Employment, Table 13 Full-Time Equivalent Employment of State and Local Governments. 1982 COG, Vol. 3, No. 2; 1992 COG, Vol. 3, No. 2; U.S. Department of Education, National Center for Education Statistics, Common Core of Data (CCD), "Local Education Agency (School District) Universe Survey", 1992-93 v.1a, 1993-94 v.1a, 1994-95 v.1a, 1995-96 v.1a, 1996-97 v.1a, 1997-98 v.1a, 1998-99 v.1c, 1999-00 v.1b, 2000-01 v.1a, 2001-02 v.1a, 2002-03 v.1a, 2003-04 v.1b, 2004-05 v.1c, 2005-06 v.1a, 2006-07 v.1c, 2007-08 v.1b, 2008-09 v.1a; "State Nonfiscal Public Elementary/Secondary Education Survey", 2008-09 v.1c, 2018-19 v.1a.

Therefore, I conducted two separate longitudinal panel data, fixed-effects regression analyses, both of which follow the same model:

$$logFTE_{it} = \beta_0 + \beta_1 Act_{1,it} + \beta_2 Act_{2,it} + \cdots + \beta_r Act_{r,it} + \partial_1 logPov_{it} + \partial_2 logPop_{it} + \varepsilon_{it}$$

My dependent variable, $logFTE_{it}$, is the natural log of state and local public education FTE staff for each year beginning two years after the relevant amendment group. This measurement is to account for the time lag between a law's adoption and the changes implemented as a result.

My independent variables of interest are categorical variables representing all sets of law changes beginning just after adoption of the original ESEA. The variable value is "1" if the amendments were in effect for a particular year. For example, the variable for the 1981 reauthorization would contain a value of "1" in the years 1981 and all years thereafter. I compare the resulting associations relative to the 1965 original enactment. Hence, law change coefficients are additive.

In this relatively simple model, I employ fixed-effects panel regression to account for nonrandom, unmeasured differences within individual states, such as economic conditions. I add controls for the natural log of the state's population in poverty and of the state's total population in each year as reported by the U.S. Census.

As discussed previously, Figure 7 shows a clear pattern of increase in the mean proportional state and local education FTE in most ESEA amendment years. Only 4 of the first 23 years and 3 of the second group of 17 years experienced a mean proportional FTE decrease over the previous year. Considering all fiscal years shown in both data sets, there is an overall growth pattern over the years, and proportional FTE growth occurs in most, but not all, years. It is possible that most of the absolute growth in the overall mean state and local public education

FTE occurred in the first set, i.e., FYs 1965 – 1992 (using the first data set). During this period the number of FTE grew from less than 1.5 in 1965 to almost 2.1 in FY 1992 for every 100 people. During the second period (using the second data set) the mean FTE dipped to 1.8 per 100 people in FY 1993 and rose again to 2.1 in FY 2009. Note, however, the sizeable interruption in values between the two data sets, as shown in the figure.

Table 2 reveals the results of the regression analyses. The first column, reflecting the first and largest set of ESEA laws, shows that of the eleven law changes in the regression, six (those enacted in 1966, 1968, 1970, 1972, 1984, and 1988) reveal highly statistically significant ($p=0.01$) FTE staff growth. Of the remaining five laws (those enacted in 1974, 1977, 1978, 1981, and 1983), only two are associated with FTE staff decreases and none are statistically significant. Of the two laws associated with FTE staff decreases, the 1981 law might be expected to show a negative association since the 1981 reauthorization was President Reagan's attempt to reduce federal education influence.

Table 2

Associations between State and Local Education Full-Time Equivalent (FTE) Staff (log) and ESEA Amendments by Year Adopted; Amendment Years 1966 – 1992; 1994 – 2002 [34]

Earlier ESEA Amendments		Later ESEA Amendments	
1966	0.061***	1994	0.074***
	(0.008)		(0.018)
1968	0.071***	2002	0.055***
	(0.009)		(0.012)
		No. in Poverty	
1970	0.074***	(log)	0.096
	(0.008)		(0.078)
1972	0.045***	Population (log)	0.900***
	(0.008)		(0.122)
1974	0.012	Constant	-3.758***
	(0.008)		(1.311)
1977	0.007	Observations	840
	(0.010)	Number of States	50
1978	-0.013	R-squared	0.438
	(0.010)	Standard errors in parentheses	
1981	-0.012	*** p<0.01, ** p<0.05, * p<0.1	
	(0.008)		
1983	0.011		
	(0.010)		
1984	0.034***		
	(0.009)		
1988	0.080***		
	(0.005)		
Number in poverty (log)	-0.194***		
	(0.013)		
Population (log)	1.035***		
	(0.018)		
Constant	-2.284***		
	(0.184)		
Observations	2,395		
Number of States	50		
R-squared	0.944		
Standard errors in parentheses			
*** p<0.01, ** p<0.05, * p<0.1			

[34] Because the two datasets could not be combined, I ran separate regressions.

To interpret the model, it is important to remember that all laws are in operation from their enactment year forward. Additionally, because the law variables are binary, all are relative to the original 1965 Act's passage. Finally, the model assumes staffing changes two years following adoption of the law. Therefore, to interpret the regression results, one must consider that the 1965 Act's staffing influence continues in all years since and including 1967 (two years after passage, the assumed staff change delay), the 1966 reauthorization's staffing influence continues in all years since and including 1968, and so on. This means, for example, that the 1966 law change, for which the assumed staffing change is in effect from 1968 forward, is associated with a 6.1 percent FTE increase. The 1968 law, in effect from 1970 forward, is associated with a 7.1 percent FTE increase, and so on. The population coefficient is expected to be large and highly statistically significant, since states' populations have grown sizably over the past decades. Controlling for population eliminates this variable's impact from the law change associations.

Importantly, however, the log of the number in poverty is highly statistically significantly ($p=0.01$) associated with a 0.194 percentage point FTE *decrease*. In other words, poverty is associated with a decrease in FTE separate and apart from the law changes and the population control. This could have additional, and concerning, implications for the nation's poorest students. More research is necessary to further examine this coefficient.

The second column in Table 2 shows a similar analysis for the 1994 and 2002 laws. As shown, these laws are associated with highly significant ($p=0.01$) total FTE staff increases of 7.4 and 5.5 percent, respectively. The poverty coefficient in this model is not statistically significant.

In summary, over the two analyses (using two data sets), there are positive associations between FTE increases and eight of thirteen ESEA law changes. None of the five remaining law

changes analyzed was associated with a statistically significant FTE change, and only two of those five (nonsignificant) associations were negative. The negative association between poverty and FTE in the first analysis needs further examination, as it might be concerning.

The Educational Condition of Disadvantaged Students

The obvious question becomes whether the sizeable resource increases, due at least in part to passage of ESEA and its subsequent iterations, have resulted in educational improvements for the disadvantaged students they were intended to help. Clearly, ESEA was adopted to reduce or even close achievement gaps between low-income and other students. Also, clearly, research evidence reveals it has not done so – especially when considering the multiple billions of dollars spent over time.

Descriptive NAEP Test Evidence

NAEP, mandated by Congress, is "the only assessment that measures what U.S. students know and can do in various subjects across the nation [and] states…." (NCES, n.d., at https://nces.ed.gov/nationsreportcard/about/) Although limited, i.e., it samples each state's fourth- and eighth-grade student bodies, NAEP measures include public school reading and math scores. Also, while NAEP has been testing students since 1969, longitudinal, standardized data became available for all states only upon the passage of NCLB.[35]

Figures 8 and 9 show the NAEP average scale score performance data for 4th and 8th grade math. As shown by these figures and by Figure 11, the NAEP math scale score gaps have remained relatively constant.

[35] Nevertheless, NAEP reported test scores for those states that did participate prior to NCLB.

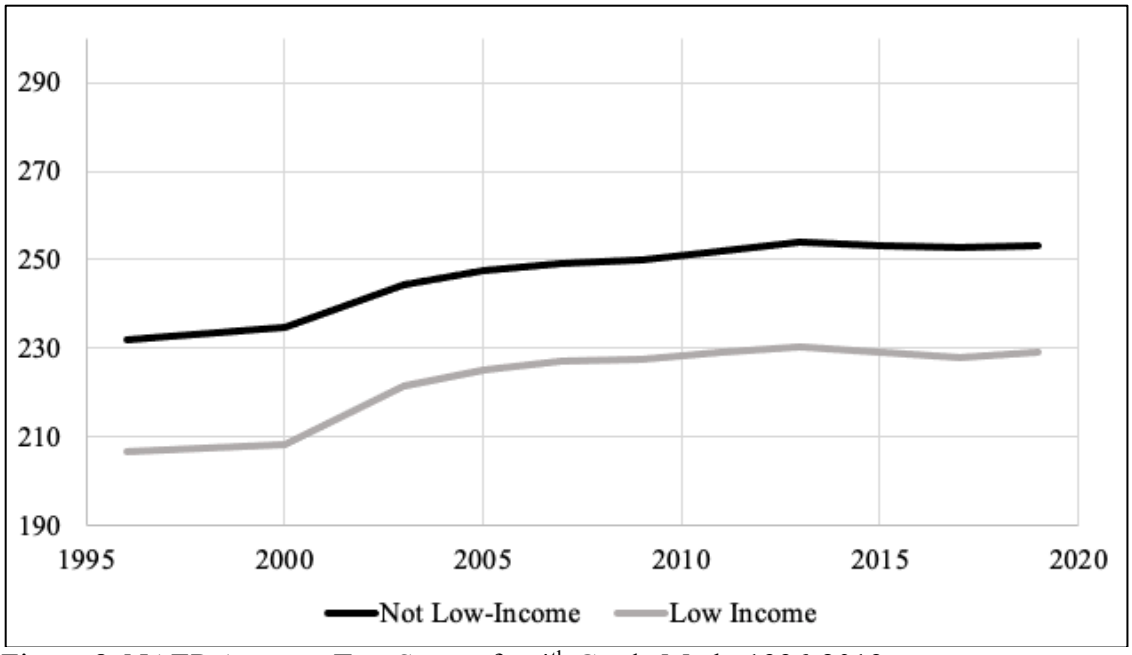


Figure 8. NAEP Average Test Scores for 4th Grade Math: 1996-2019
Source: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 1996, 2000, 2003, 2005, 2007, 2009, 2011, 2013, 2015, 2017, and 2019 Mathematics Assessments.

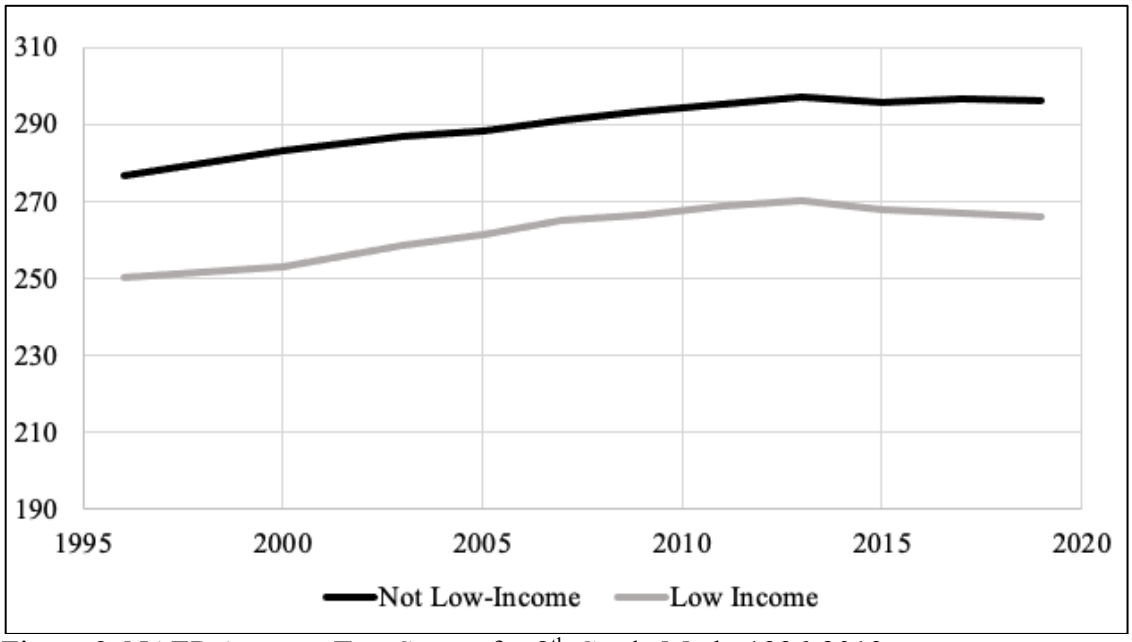


Figure 9. NAEP Average Test Scores for 8th Grade Math: 1996-2019
Source: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 1996, 2000, 2003, 2005, 2007, 2009, 2011, 2013, 2015, 2017, and 2019 Mathematics Assessments.

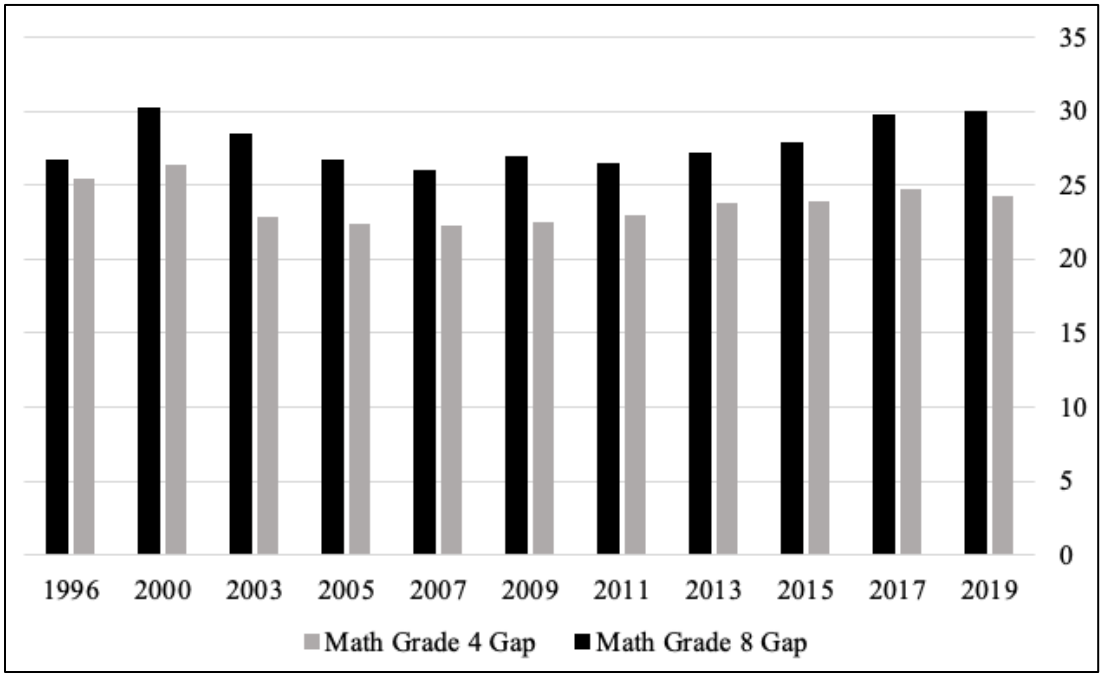


Figure 10. NAEP Math Test Score Gap between Low-Income and Not Low-Income 4th- and 8th-Grade Students: 1996-2019
Source: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 1996, 2000, 2003, 2005, 2007, 2009, 2011, 2013, 2015, 2017, and 2019 Mathematics Assessments.

Figures 11 through 13 show the same information for NAEP reading scores. Reading scores once again depict a stubborn gap between low-income and not low-income students.

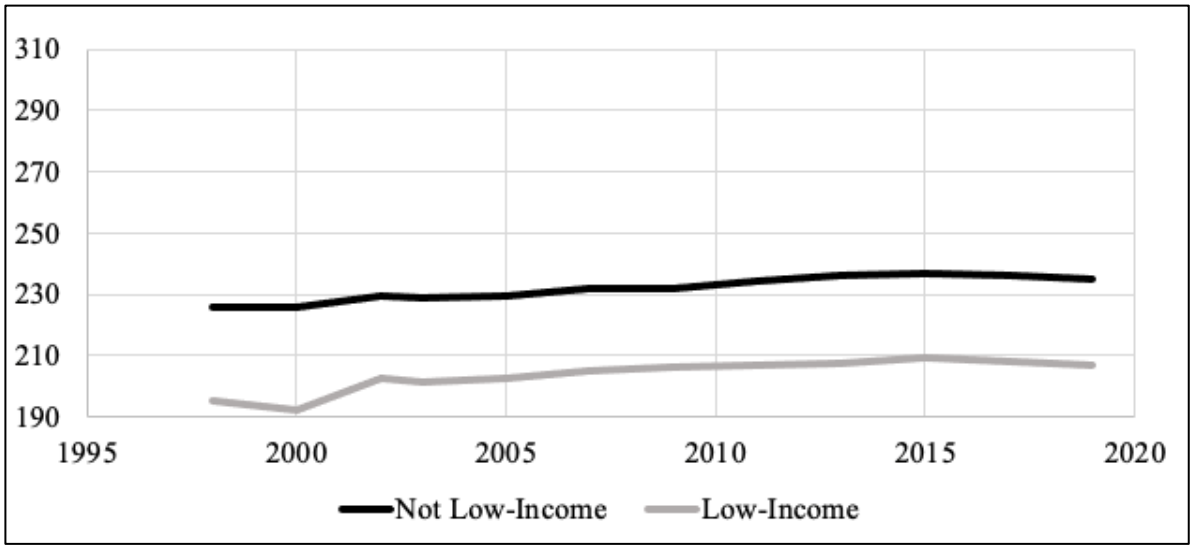


Figure 11. NAEP Average Test Scores for 4th Grade Reading: 1996-2019
Source: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 1998, 2000, 2002, 2003, 2005, 2007, 2009, 2011, 2013, 2015, 2017, and 2019 Reading Assessments.

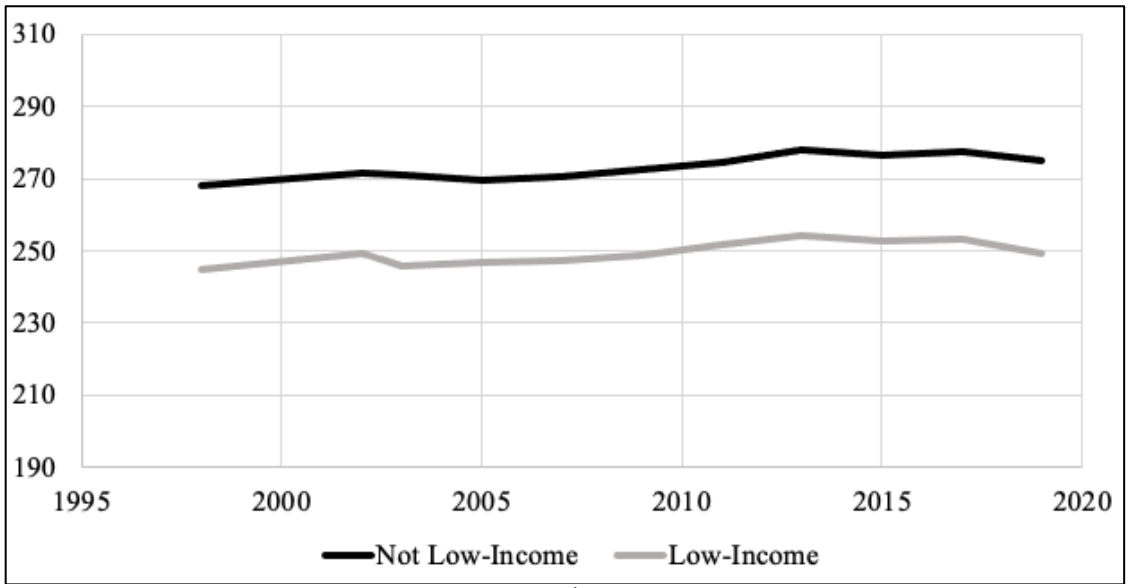


Figure 12. NAEP Average Test Scores for 8th Grade Reading: 1996-2019
Source: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 1998, 2002, 2003, 2005, 2007, 2009, 2011, 2013, 2015, 2017, and 2019 Reading Assessments (2001 data not available).

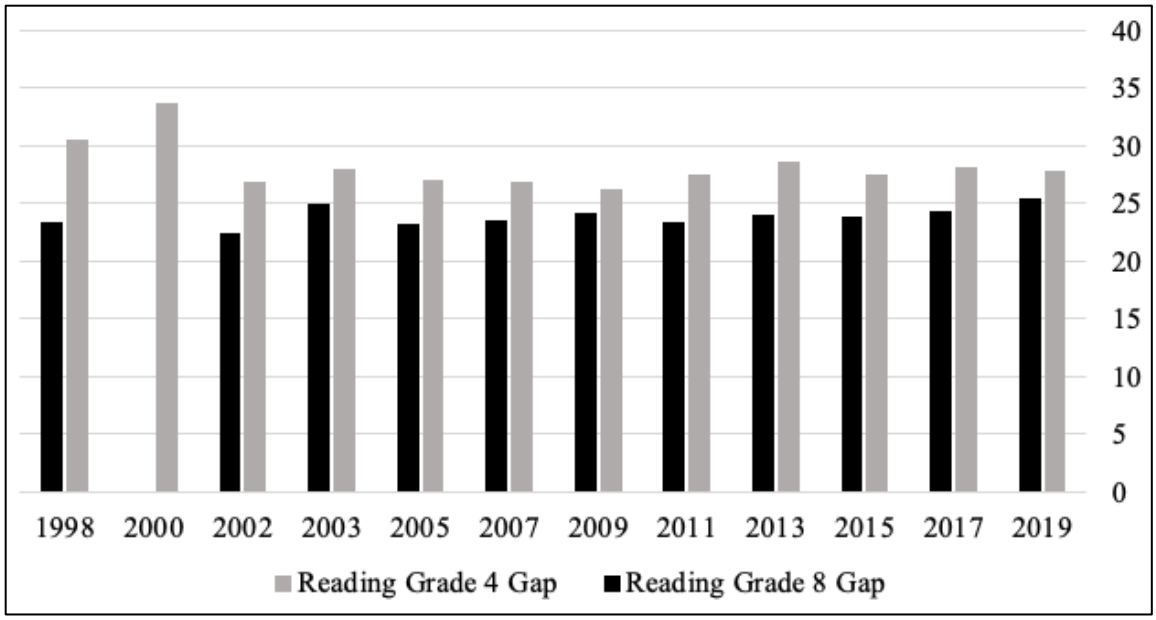


Figure 13. NAEP Reading Test Score Gap between Low-Income and Not Low-Income 4th- and 8th-Grade Students: 1996-2019
Sources: *4th Grade* – U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 1998, 2000, 2002, 2003, 2005, 2007, 2009, 2011, 2013, 2015, 2017, and 2019 Reading Assessments. *8th Grade* – U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 1998, 2002, 2003, 2005, 2007, 2009, 2011, 2013, 2015, 2017, and 2019 Reading Assessments (2001 data not available).

Sousa and Armour (2016) Research Synthesis Summary

Addressing only ESEA's Title 1, Sousa & Armor (2016) review prior research evaluating the program's effectiveness in closing achievement gaps between disadvantaged and non-disadvantaged students using a research synthesis approach to summarize studies conducted between 1966 and 2011. After reviewing five peer-reviewed evaluation studies and conducting their own standardized national assessment score trend analysis, the authors conclude there is "very little evidence that the Title I compensatory education program has significantly improved the academic achievement of disadvantaged students nationwide" (Sousa & Armor, 2016, 309).

In summary, none of the studies used randomized control trials (RCT), considered the only true experimental design, because RCT has never been used to evaluate the overall Title I

program across the nation. This is likely due to the "near universal implementation of Title I," which negates possibility of a control group.

Nevertheless, Sousa and Armor (2016) examined five peer-reviewed studies – two meta-analyses, two National Assessments (conducted by the USDOE), and one panel data analysis of state-level results of the standardized national assessment (National Assessment of Educational Progress, or NAEP).[36] They also conducted their own summary analysis of NAEP data covering 1990 to 2013.

Three peer-reviewed studies evaluated Title I effectiveness at closing gaps during school years prior to before 2000, i.e., before NCLB was implemented. These studies showed "[no] meaningful gap reductions" and, in fact, widening achievement gaps in one of the studies (Sousa & Armor, 2016, 309).

The two later peer-reviewed studies provide evidence suggesting NCLB "had modest effects on 4th grade test scores, especially in math, and these gains were somewhat stronger for disadvantages [sic] students" (Sousa & Armor, 2016, 309). One of these studies is particularly noteworthy. Dee & Jacob (2011) conducted a quasi-experimental examination in which the study authors compared states that had not implemented NCLB-like accountability reforms prior to NCLB with their performance under NCLB. The authors found that, by 2003, states with pre-NCSL accountability reforms reduced the gap between black and white students by 7 points compared to 5 points for states without the pre-NCSL reforms (Sousa & Armor, 2016, 310). A similar finding resulted for students disadvantaged by poverty.

[36] NAEP, mandated by Congress, is "the only assessment that measures what U.S. students know and can do in various subjects across the nation [and] states…." (NCES n.d., at https://nces.ed.gov/nationsreportcard/about/) Although limited, i.e., it samples each state's fourth- and eighth-grade student bodies, NAEP measures include public school reading and math scores.

Finally, Sousa and Armor (2016) conduct an overall analysis of 1990-2013 NAEP data. The authors conclude, "The overall progress is disappointing, particularly for the poverty gap. The achievement gaps between [low-income] students … and those not [low-income] have remained virtually constant for reading and math at both grade levels [i.e., 4th and 8th grade]" (Sousa & Armor, 2016, 310). Black-white and Hispanic-white gaps showed better results. The authors then commented on the distinction between results before and after NCLB, noting that "after 2000 [the national approach] was to adopt accountability practices which had proven effective in some states during the late 1990s" (Sousa & Armor, 2016, 310).

The distinction between pre- and post-NCLB Title I effectiveness studies should be emphasized. Whereas prior to NCLB, Title I consisted of several policy changes and nearly four decades, the studies regarding NCLB-related effectiveness – and particularly Dee & Jacob (2011) – are more specific. This places at least the Dee & Jacob study on stronger footing when considering Title I effectiveness. However, several areas of concern remain. First, Dee & Jacob found gap improvements for only certain NAEP test scores among different disadvantaged groups. Second, as noted previously, others have expressed concerns with the institutional accountability approach adopted through NCLB. Additionally, concerns have been raised that, at least in the states that implemented the NCLB flexibility waiver, achievement scores might have dropped.[37] Since the Sousa and Armor study ends in 2013, and NCLB waivers were generally granted in 2014 and 2015, additional study is necessary to determine what happened later because of NCLB, as well as what happened after NCLB was no longer in effect.

[37] AYP did, in fact, drop dramatically for the lowest-performing Title I schools in Kansas once that state implemented the waiver. As a result, after receiving this information the Kansas legislature implemented the state's only tax credit scholarship for these schools. See Appendix B for the presentation to the joint meeting of the Kansas Senate and House Standing Education committees; see Kansas State Department of Education (n.d.), "Tax Credit for Low Income Students Scholarship Program."

Major Reason behind ESEA Reforms' Failure: A Public Choice Explanation

Given the layered structure of the school system, it is not difficult to explain why hundreds of billions of federal reform dollars amounted to little, if any progress for any, including disadvantaged students. The district monopolies provide personnel with negligible incentive to improve student outcomes. The layering begun *via* early state control has only increased in the ensuing years, as federal and state controls have expanded thereby thickening educational bureaucracy. Thus has the centropoly formed and strengthened. Relatedly, a key disincentive to change, quite simply, is that most educational administrators and school boards prefer schools to remain as they are, not as some, e.g., some policymakers and much of the public, would like them to be (Maranto & Wai, 2020; Downs, 1967).

The entire infrastructure of laws, agencies, and staffing resulting from ESEA and its iterations was superimposed, in waves, upon an already centralized and monopolized public education system, hence bringing to life the hybridized U.S. educational centropoly, with its layers of government operating above each student. The effects of this large-scale evolution *should* be emphasized. Layering has contributed to what Tullock (1965, 1992) discusses regarding communication distortions, and to what Downs (1967) refers to as the rigidity cycle. Government layering has produced additional bureaucracy which, in turn, has led to reduced information as well as increased monitoring, regulation, and defensive moves, of and by the centropoly.

Additionally, as Mises (1944, 57-63) explains, a public bureaucratic manager has only his/her set of rules to govern behavior. This happens because public enterprises, such as public schools, lack the simple information device of the profit motive. Absent the profit motive, public managers have no way of determining the *public's* needs or demands or how these compete

among different groups of people, but they do understand that (a) "… the appearance of a deficit is not considered a proof of failure…"; and (b) "every service can be improved by increasing expenditures" (Mises, 1944, 61, 62). Since the primary interest of each such manager is "improving the satisfaction of needs only in their special branches of activity" (Mises, 1944, 62), the focus becomes budget maximization.

Finally, the centropoly has decreased focus on schools' constituencies. Stated alternatively, increased defensiveness and information distance further emphasize private motives (Tullock, 1965, 1992). Disadvantaged students and their parents were captive in school districts in 1965, and they remain captive today, because they cannot afford to move to a different district or school or to enroll their children in a private school. Educational captivity places these students and their parents under the control of officials – at three government levels – working in settings offering job security in numerous ways, *via* the school system's now-centropolized status. Professional educators frequently tell complaining or questioning parents to leave their children's education to the professionals. Yet, these professionals not only have limited information relative to that of the parents, but they also prioritize their own private interests ahead of those of the students.

As shown previously, in U.S. public educational centropoly, the purpose of the institution is to maintain the institution. The public school system fits Downs's description of bureaus – actually, of an organization (more precisely, a *bureau*) made up of several bureaus. A state educational system is composed of the state education bureau and its many school district organizations or bureaus. The imposition of federal control – tied to the "golden handcuffs" offered by the additional federal funding – has further centralized and bureaucratized the public

education system: now, the states as well as their monopolistic school districts are required to follow *federal bureau* mandates in addition to their respective *state bureau* requirements.

The public school system frequently defends itself against perceived threats, such as funding cuts or school choice legislation, by publicly stating that its goal is to serve the children. Public choice theory, however, helps to explain how the public education system primarily serves itself. The schools and states exhibit collective willingness (of multiple organizational participants) to take the strings attached to higher-level (e.g., federal) money, thereby becoming more bureaucratic. This, in combination with the fact that the bureaucracy is separated, often by several levels, from its constituency, means that self-interested bureaucrats decide with woefully inadequate information on what is best for the students under their control.

Given these circumstances, what is the educational centropoly's incentive to focus on improving, for example, achievement gaps evidenced in the NAEP scores? The students will remain regardless of personal or institutional achievement (Chubb & Moe, 1990). Given widespread public sector job protection and teacher tenure, neither low-performing teachers nor poorly performing school leaders are incentivized to prioritize student achievement. Finally, their monopoly status coupled with their political clout means that public schools will remain unchanged regardless of their performance or lack thereof. Widespread measurable success – indeed, much success at all -- under such a system could be viewed as the exception, and not the rule.

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PART TWO: Charter Schools in the Shadow of the Centropoly

Chapter 4 – Charter Schools: History, Context, and Political Considerations

Introduction

Ironically, American charter schools emerged both from, and as an alternative to, the educational centropoly. Although now squarely a part of the school choice movement, charter schools began as an attempt to reform school districts by flattening their structure. When this attempt received no traction, reformers shifted it into a school choice option. Why and how did this unique reform occur?

To understand the charter school reform movement in America, one must know the underlying system from whence it emerged and provided an alternative. In Chapter 2, I provided a somewhat detailed history of the system's formation; here, I first summarize that history focusing on the centripetal forces that shifted American public education from small, community-based schools to a monopolized, centralized bureaucratic structure which I call the educational centropoly. I then summarize the history of the charter school movement. Finally, I discuss the theory behind charter schools in three ways: decision-making theories as they apply to a school choice reform like charter schools, and public choice theory from both the decision makers' and educational centropoly bureaucrats' viewpoints.

The American Public School System in the Context of Formal Organizational Theory

It is important to examine the literature related to public organizations, of which American public schools are a subset, to fully understand the politics of charter school formation and growth. As noted previously, little if any research has been conducted on public school organizations themselves. Here I employ theoretical literature regarding public choice.

Public Choice Theory in Context

In Chapter 1, I provide a detailed analysis of public choice theory in the context of the bureaucracy. Here, I discuss public choice theory both in terms of the formal policy decision makers (i.e., state legislatures) and in terms of the formal policy decision influencers (i.e., educational centropoly bureaucrats).

Central tenets of public choice theory include that (a) officials, acting rationally, make choices based upon private (as opposed to their more public and benevolent) motives; (b) complete knowledge allowing for optimal implementation decision-making is largely missing from the bureaucratic organization; and (c) in place of knowledge to drive organizational decisions, bureaucratic officials seek strategies to maximize their budgets (Downs, 1967; Niskanen, 1971). This latter behavior likely is the natural conclusion to officials' actions based on rational incentives. Regarding incentives, Downs (1967, 82) states, "Utility maximization … means the rational pursuit of one's goals…. In order to predict what officials will do, we must know their goals." Downs (1967, 82) juxtaposes *social functions*– the overt, publicly stated goals of an organization –against individual officials' private motives. Private motives include increased power among organizational leaders, job retention and pay increases for employees, and others.

Because humans populate institutions, institutional behavior is fundamentally human behavior. However, the layering of the TPS system's institutional control over humans produces layered responses which might strengthen incentives to protect the institution itself. Assuming, as with the public choice model, that "every official acts at least partly in his own self-interest" (1967, 83), one must take private motives into account when examining the actions of a bureau. Downs (1967, 83) cites Calhoun (1953, 5): "'Each [individual]… has greater regard for his own

safety or happiness than for the safety or happiness of others, and, *where these come in opposition, is ready to sacrifice the interests of others to his own*'" (Emphasis added).

Downs (1967) describes how bureaucracies are formed and how they implement decisions based on public choice theory. But how did America's schools become so bureaucratic?

The Structuring of the American Public Education System

American public schools began with both public and private roots as individual, voluntary efforts in small communities before the nation's establishment. It would take many decades for schools to be absorbed, by what one might describe as organizational centripetal force, into centralized state school systems.

During early days some private schools were permitted to operate in community schoolhouses. In other areas, parents and others volunteered to form and operate schools. Legislators permitted and funded still other schools via a "rate bill", for which only the users of the school would pay (Cubberley, 1916, 4).

Prior to and even after the Revolutionary War, school organizational efforts were interwoven with religion but soon began to take on secular characteristics. Cubberley (1922, 356) points out that the half century after the Revolutionary War could be seen as a transitional period from church to state control of education. Alongside this change, community schools began organizing into districts. Cubberley (1916, 5-7) describes the evolution of the district system from establishment in only small areas to statewide; as more districts formed the web of districts spread first across counties and then across states.

Importantly, the district and state system transformed American public schools into a network of monopolies. School district geographic boundaries provided demarcation lines, inside

which resident students attended school. As districts grew, district officials further subdivided districts into school attendance or "catchment" areas (Cubberley, 1916, 6-8; NCES, The Boundary Collection), wherein a student attended the school located in the catchment area that includes the student's residence. State constitutional provisions and/or resulting state statutes then codified the monopolistic state-plus-district systems, which continue today (Railey, 2017; states' constitutional education clauses and education statutes). As pointed out by Friedman (1955; 1962, 1982), a state government instead could fund but not manage or control individual schools.

The Common School movement occurred at roughly the same time, as the nation grew rapidly into one consisting of diverse immigrant groups. Common Schoolers worked to unify the nation civically through education. Led by Horace Mann and mixing secular and Protestant motives the Common School movement brought about a Protestant-influenced education (hence making Catholic immigrant children more suitable citizens in the view of Protestant reformers) (van Raemdonck & Maranto n.d., 3; Hess 2010, 87-88) and importing the age-based grade level system from Prussia (Hess, 2010, 87-88).

The Progressive movement brought leaders like Ellwood Cubberley to bureaucratize schools specifically to control them (Cubberley, 1916, 14). This influence spread to teacher and principal preparation, which were influenced by a uniform teacher preparation model (Maranto & Wai, 2020) and implementation of the principles of Scientific Management (Callahan, 1962). The Progressives thus pushed for centralizing separate community schools under state, instead of community, control. The movement also succeeded in not only training school leadership with a focus on efficiency, rather than education, but also in creating the satellite institution of teacher- and leadership-training colleges and universities (Callahan, 1962; Maranto and Wai, 2020).

Finally, state constitutions provided a sound structural base for centralization in addition to the district monopolistic system. Whereas early state constitutions seldom mentioned education, later state constitutions systematized the 50 partially centralized and largely monopolized educational systems into their conglomerate, centralized form.

The layering of districts under centralized state control produced concrete negative effects. Drawing on the history of U.S. educational reforms over time, one of the most serious overarching effects resulted from combining formalized school segregation, *via* district and school monopolization, with what Downs (1967) and others discuss of formal institutions' centripetal pull. District and school catchment area systems, now constitutionally and/or statutorily protected and layered under centralized state control, have trapped large numbers of U.S. schoolchildren whose families cannot afford to move to a different district or school. This includes, systematically, disadvantaged students and many students of color.[38]

Importantly, because districts' geographic boundaries were now formalized into state systems and lay atop a system of racially and economically segregated communities, the "common" schools envisioned by Mann, Cubberley, and others governed the educational needs of communities whose needs were anything but uniform. Given racial and economic segregation, the children enrolled in these uniform schools differed markedly across districts – and among districts' schools – hence rendering education and its delivery unequal. In the mid-twentieth century, awareness of this inequality grew and fueled a massive reform movement at the federal level. Bradley-Dorsey (forthcoming) argues that federal reform efforts beginning in the mid-twentieth century, while attempting to reform the extant system of unequal schools serving

[38] Indeed, despite widespread acceptance of the Tiebout Effect theory (i.e., that the public can "vote with their feet" to pursue public goods such as schooling by moving to different neighborhoods), the Tiebout Effect is also widely disputed even for those with the financial means to move. See, e.g., Fedako, 2018.

markedly different student populations, instead increased centralization and top-down control. The advent of federal interventions into an already layered, centralized TPS system resulted in further layering and more centralization. As pointed out by Downs (1967), increasing a bureaucracy's size and external control mechanisms produces defensive moves on the part of bureaucrats, which actions themselves result in rigidity and possibly also in additional size increases.

School Districts: Evolution of Bureaucracy and Size

Since the early days of district formation and state control, centralized system organization also has continued to evolve. Due in large part to federal intervention (Bradley-Dorsey, forthcoming), district staffing has grown demonstrably. Scafidi (2012, 1) notes that, between Fiscal Year (FY) 1950[39] and FY 2009, K-12 public school enrollment increased by 96 percent, yet in the same period the public school FTE count grew 386 percent. Scafidi (2017, 3) notes that staffing declined from FY 2009 to FY 2012 as a result of the Great Recession; however, "[a]fter FY 2012, American … public school employment began growing again at a rate faster than increases in student enrollment."

The staffing surge accompanies the fact that public school organizations also have become more complex. Scafidi states the staffing increase was not driven only or even primarily by an increase in the number of teachers. Instead, during this period, "[T]eachers' numbers increased 252 percent while administrators and other staff experienced growth of 702 percent, more than seven times the increase in students (Scafidi, 2012, 1)." Both the teaching and administrative staff influxes have revealed themselves through new staff titles, such as several

[39] Scafidi (2012) began measuring prior to enactment of the National Defense Education Act of 1958 and the Elementary and Secondary Act of 1965, both (and especially the latter) of which influenced large increases of public educational staff.

mentioned in a recent Fayetteville, Arkansas school board agenda. These include federal Title I teachers and administrators, in-school suspension staff, child nutrition staff, speech pathology staff, film and TV staff, coaching staff, personalized learning staff, gifted and talented teachers, and special education teachers (Fayetteville Public Schools, 2019).

However, states vary widely in the relative size of their TPS organizations. Table 3 shows the public school employee load for each of the 50 states, in order of their relative number of FTEs. As shown in Table 2, public school FTEs per 100 adults range in the 50 states by a factor of more than 2.0, from 1.5 to 3.7. In the example states used previously, Kansas school districts have approximately 3.1 FTE employees for every 100 adults, or 1.7 times as many as Arizona's approximately 1.8 local school district FTE employees per 100 adults. As explained later in greater detail, I hypothesize that across all states the number of TPS FTEs per 100 adults, an important expression of TPS power since adults are allowed to vote, is inversely related to charter market share.

Table 3

State Rankings: 2017 K-12 Public School FTEs per 100 Adults

Rank	State	TPS FTE Staff per 100 Adults	Rank	State	TPS FTE Staff per 100 Adults
1	Nevada	1.50	26	Missouri	2.64
2	Washington	1.67	27	Utah	2.64
3	Arizona	1.84	28	Virginia	2.75
4	California	1.97	29	Indiana	2.75
5	Oregon	2.04	30	New York	2.76
6	Florida	2.05	31	Minnesota	2.79
7	Hawaii	2.07	32	Oklahoma	2.83
8	Idaho	2.16	33	Kentucky	2.84
9	South Carolina	2.19	34	Georgia	2.86
10	New Mexico	2.25	35	New Hampshire	2.86
11	Louisiana	2.29	36	South Dakota	2.96
12	Michigan	2.36	37	Mississippi	2.96
13	North Carolina	2.37	38	Alaska	3.11
14	Rhode Island	2.38	39	Iowa	3.12
15	Delaware	2.39	40	Kansas	3.14
16	Massachusetts	2.40	41	Arkansas	3.18
17	Pennsylvania	2.40	42	North Dakota	3.20
18	Alabama	2.41	43	Maine	3.29
19	Wisconsin	2.46	44	Nebraska	3.29
20	Tennessee	2.47	45	Texas	3.31
21	Maryland	2.51	46	New Jersey	3.44
22	Colorado	2.52	47	Connecticut	3.45
23	Illinois	2.52	48	Ohio	3.55
24	Montana	2.53	49	Vermont	3.58
25	West Virginia	2.62	50	Wyoming	3.73

Charter Schools: Historical and Political Context

The modern concept of school choice was born in 1955, before most federal intervention into the TPS system began, *via* Milton Friedman's treatise on school vouchers (Friedman, 1955).[40] [41] Friedman's (1955) call for vouchers reasoned against formal institutional control of public schooling, recommending free market control instead. That same year, the Minnesota legislature enacted the first tax deduction for education expenses (EdChoice, "America's School Choice Programs…"), but twentieth-century school choice did not arise for several decades. The Wisconsin Legislature adopted the first voucher program in 1990, and shortly thereafter the Minnesota Legislature adopted the first charter school program (1991).

Charter School History

Public charter schools grew out of the modern TPS educational reform movement generally, as well as the school choice movement. In 1974, principal-turned-academic Ray Budde presented his idea for reorganizing school districts in a paper titled "Education by Charter." Kolderie (2005, 1) describes Budde's idea as one of reorganizing school districts by focusing on their existing schools:

> [Budde had] always had a strong interest in 'the way things are organized' and in 'how things work or don't work in organizations'…. Ray Budde's proposal was actually for a restructuring of the *district*: for moving from 'a four-level line and staff organization' to 'a two-level form in which groups of teachers would receive educational charters directly from the school board' and would carry the responsibility for instruction….

Importantly, Budde's idea was to flatten an already centralized and layered bureaucracy. Though Budde's idea went almost unheeded, in 1988 American Federation of Teachers president

[40] Voucher programs consist of providing public money for parents to place their children in private schools.

[41] The oldest U.S. school voucher programs still in operation began in Vermont (1869) and Maine (1873). Source: https://www.edchoice.org/school-choice/programs/vermont-town-tuitioning-program/; and https://www.edchoice.org/school-choice/programs/maine-town-tuitioning-program/.

Albert Shanker revived and revised the idea in a speech wherein he endorsed the notion of teachers beginning new schools. However, Shanker's idea, which would have required school district authorization and contemplated collective bargaining between unions and districts (Peterson, 2010), was short-lived. [42] Instead, Kolderie, Joe Nathan, and others in Minnesota transformed the idea into one requiring authorization outside the school district and union organizations, at which time Shanker removed his support (Peterson, 2010). The first charter school law was born out of this movement in Minnesota in 1991, not long after enactment of the first private school voucher law (Wisconsin, 1990).

Once the Minnesota Legislature had adopted the first charter law, the charter school movement caught fire. Generally, charter schools were accepted more rapidly than were vouchers. From 1991 through 1998, a total of 34 states plus Washington, D.C. enacted charter laws (Hassel, 1999, 1). Currently 45 states plus the nation's capital have charter laws, while 5 states have no such measures. (Sixteen states plus Washington, D.C. and Puerto Rico have voucher programs.)

Charter Law Quality Rankings

Having been influenced by both the centropoly and the private school choice movement, all charter laws require charters to be public schools of choice, meaning they are publicly funded, nonreligious, and tuition-free, and the school cannot discriminate or be selective in enrolling students. Frequently they focus on innovative teaching methods or specialized curricula (Hassel,

[42] Other reform efforts also influenced the charter movement. Economic deregulation in the 1970s and 1980s generated interest in deregulating other areas of government and some states followed suit, attempting to deregulate their public education systems. During the 1980s, Minnesota business and nonprofit organizations examined ways to deregulate the state's public schools (Cohen, 2017). In 1994, the Arizona State Senate considered a bill that would have reduced state mandates over the school system. Although that bill died in the House, the Legislature passed its charter school bill later that year. (Overview: Bill History for SB 1187 [1994]. Retrieved 12/23/19 from https://apps.azleg.gov/BillStatus/BillOverview/6658?Sessionid=21.)

1999, 5). Charter school laws differ drastically in strength and quality, however. Hassel (1999, 18) describes strong statutes as those possessing five characteristics: allowing a body or bodies other than a local school district to authorize a charter; allowing multiple parties to begin a charter school, granting charters both legal and fiscal independence from school districts, exempting charters from most school district laws and regulations, and authorizing the creation of many new charter schools (Hassel, 1999, 18).

Others, such as the Center for Education Reform (CER) and the National Alliance for Public Charter Schools (NAPCS), both charter school advocacy organizations, and the American Federation for Teachers (AFT), a teachers' union, differ in the items they define as foundations of good charter school state laws. While some scholars doubt the efficacy of state charter school rankings,[43] here I use the CER model because it places value on charter school laws containing fewer government restrictions (Chi & Welner, 2008, 275-276) and is as such better aligned with public choice theory.[44]

The 2018 CER model ranks states by assigning points based on four elements, assigning a letter grade to the various rankings (Candall, 2018, 9-11):

- Authorizing (15 points possible) – CER assigns points not only on the presence of multiple authorizers, but also on the degree of independence authorizers possess.
- Growth (15 points) – Charter laws lose points if policies (e.g., caps on the number of charters) prevent the opening of additional charters or the spread of successful charter models.

[43] See, e.g., Chi & Welner, 2008.

[44] In promoting the use of a transparent goal set behind any ranking system, Chi & Welner (2008) propose the addition of equity as a charter school law component. An admirable quality at its base, adding this to charter school laws while ignoring the history of the segregated educational centropoly could be problematic. This, however, is a topic for a separate discussion.

- Operational Autonomy (20 points)– According to CER, states that grant blanket waivers from school district rules result in more innovation and more diverse educational offerings; points assigned by CER vary based on the degree of autonomy a state's laws allow.
- Funding Equity (15 points) – States that do not offer at least baseline funding to charters inhibit their growth and development; CER therefore varies points based on funding equity.

Table 4 lists the 50 states and the District of Columbia[45] in order of their 2018 "grade" ranking by CER. Figure 14 maps the CER's 2018 grade ranking of U.S. state charter laws. CER assigns the grades based on the total number of points granted (Candall, 2018, 66). The states are listed in that order within each grade ranking.[46]

[45] In the next chapter, I exclude analysis of the Washington, D.C. charter schools. Instead, I examine state political influences, wherein generally a governor and legislature determine the existence of charter schools. The U.S. Congress and President vote on the Washington, D.C. charter schools, hence considerably changing the political landscape.

[46] Both the table and the map show the status of charter school laws as of 2018, at which point only 44 states had enacted charter school laws. As noted previously in this paper, currently the charter state count is 45, with the recent addition of Vermont's charter school law. Such a recent addition would not have influenced the findings of this paper, since charter enrollment data are collected through 2016.

Table 4

List of States and District of Columbia According to 2018 CER National Charter School Law Rankings & Scorecard (in order of ranking)

Ranking	States
A	District of Columbia[47], Arizona, Indiana
B	Michigan, Minnesota, Colorado, California, Florida, New York, Massachusetts, South Carolina
C	Texas, North Carolina, Utah, Oklahoma, Missouri, Wisconsin, Louisiana, Tennessee, Georgia, Idaho, Nevada, New Mexico, Ohio, Pennsylvania, New Jersey
D	Hawaii, Kentucky, Oregon, Arkansas, Delaware, Maine, Connecticut, Illinois, New Hampshire, Alabama, Wyoming, Mississippi, Rhode Island, Washington
F	Alaska, Virginia, Kansas, Maryland, Iowa
0 (No charter school law)	Montana, Nevada, North Dakota, South Dakota, Vermont, West Virginia

[47] Note again that I exclude Washington, D.C. See Footnote 45 for detail.

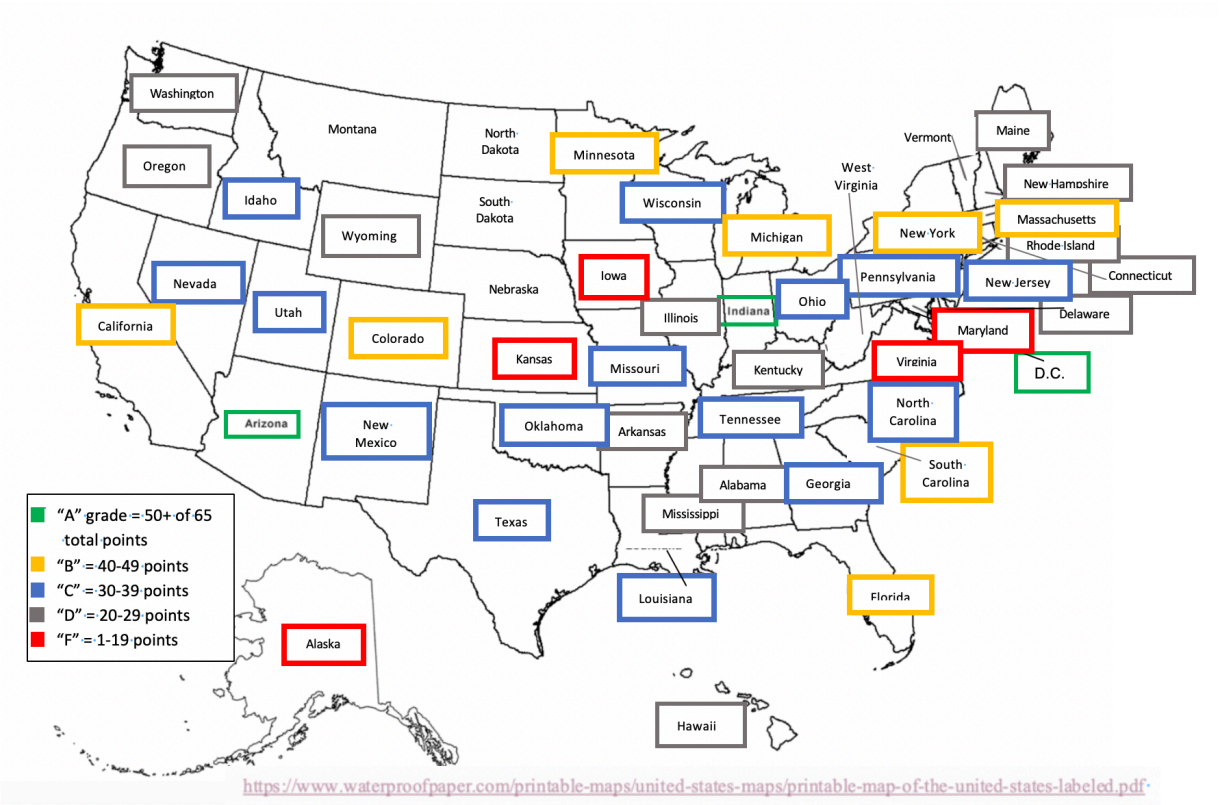

Figure 14. Map of CER's 2018 Grade Ranking of U.S. State Charter School Laws

Thus, states with charter laws differ in the strength and quality of those laws. Seen alternatively, states differ in their ability or willingness to resist charter school legislation or expansion. Among the first wave of charter school laws adopted, the Arizona and Kansas laws serve as examples of differing charter law quality. Both states passed their charter school laws in 1994. However, Arizona's law allowed for multiple authorizers, did not cap the number of charter schools, and allowed charters flexibility (Ziebarth, 2019, [NAPCS], 14). Kansas's law restricted authorization to only school districts.[48] Twenty-six years later, Arizona maintains more than 500 charter schools, which serve approximately 213,000 students, or almost 20% of

[48] CER granted Kansas points for not placing a cap on the number of charter schools; however, allowing only school districts to authorize charters effectively provides a structural limitation on the total number of charters authorized.

students attending publicly funded schools.[49] Kansas has 10 (school district-authorized) charter schools, which serve about 3,300 students, or less than 1% of Kansas' 491,000 public school students.[50] In 2018, CER ranked Arizona's charter law first among the 50 states, and Kansas' law forty-second of the forty-four states with charter laws at the time.

The bases of these ranking differences have led to vastly different charter school enrollment proportions among the states. Table 5 lists the 50 states in order of their charter school enrollment per 100 TPS students enrolled.

[49] Arizona Charter Schools Association. (n.d.; © 2020).
[50] Kansas State Department of Education. (n.d.; © 2021).

Table 5
Charter Enrollment per 100 TPS Students Enrolled: School Year 2018

Rank	State	Charter Enrollment Per 100TPS	Rank	State	Charter Enrollment Per 100TPS
1	Arizona	17.08	26	Indiana	4.47
2	Colorado	13.26	27	Oklahoma	4.18
3	Utah	11.29	28	Georgia	4.11
4	Louisiana	11.29	29	Tennessee	3.76
5	Delaware	11.25	30	New Jersey	3.51
6	Florida	10.44	31	Illinois	3.24
7	California	9.95	32	Maryland	2.67
8	Michigan	9.62	33	Missouri	2.58
9	Nevada	9.32	34	New Hampshire	1.97
10	Pennsylvania	7.97	35	Connecticut	1.92
11	New Mexico	7.81	36	Maine	1.24
12	Idaho	7.00	37	Kansas	0.64
13	Ohio	6.64	38	Wyoming	0.60
14	North Carolina	6.50	39	Washington	0.22
15	Minnesota	6.41	40	Mississippi	0.20
16	Arkansas	6.36	41	Virginia	0.09
17	Rhode Island	6.20	42	Iowa	0.08
18	Hawaii	6.18	43	Alabama	0.03
19	Texas	6.02	44	Kentucky	0.00
20	Oregon	5.54	45	Montana	0.00
21	Alaska	5.27	46	Nebraska	0.00
22	New York	5.12	47	North Dakota	0.00
23	Wisconsin	4.94	48	South Dakota	0.00
24	Massachusetts	4.69	49	Vermont	0.00
25	South Carolina	4.48	50	West Virginia	0.00

Relationship between TPS FTE Rankings and CER Charter Law Rankings

As shown in Figures 15 and 16, comparing the quality of states' charter school laws, as measured by CER, to the proportions of charter school enrollment and TPS FTEs reveal strong patterns. Figure 18 displays perhaps a predictable pattern between the mean charter school enrollment per 100 TPS students and the 2018 CER charter school law ranking. Since CER is a proponent of charters, one might expect the organization's ranking criteria to relate to greater

charter enrollment at the higher ranks. Figure 19, on the other hand, shows an inverse pattern between the mean TPS FTE per 100 adults and the 2018 CER charter law ranking. This comparison has not been made before, to this author's knowledge. This descriptive comparison illustrates what I suspect to be occurring nationwide – that a relationship exists between TPS power measured in proportional staff numbers, and proportional charter enrollment. Overall, the correlation between the 2018 CER state rankings and charter enrollment per 100 TPS students is 0.534.

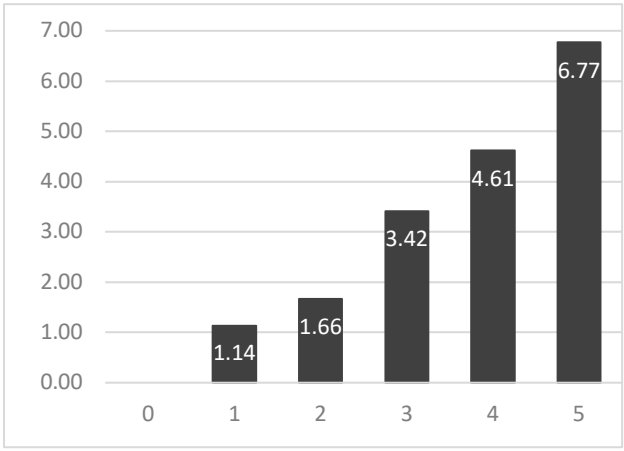

Figure 15. Mean Charter Enrollment per 100 TPS Students Enrolled over All Years by CER Rank (0=No Charter Law; 1="F"; 5="A"

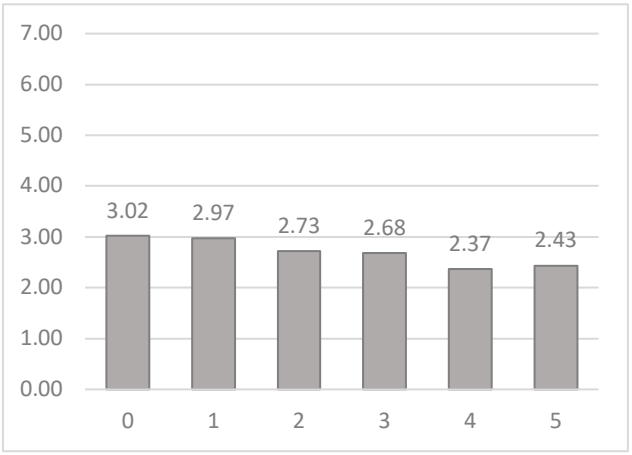

Figure 16. Mean TPS FTE per 100 Adults over All Years by CER Rank (0=No Charter Law; 1="F"; 5="A"

In Chapters 2 and 3, I show how the American public school system became monopolized, centralized, and bureaucratized. In both Weber's political analysis of bureaucracy and public choice theory one needs only the third characteristic – bureaucracy – to cement an organization's power. The question that arises from the descriptive analyses in this chapter is simple: Does the centropoly itself hold political power over states' charter schools?

In Chapter 5, I use the relationships illustrated in Figures 18 and 19 to conduct an empirical analysis of the potential power of the educational centropoly to influence the size and strength of

states' charter schools through the mechanism of staff counts. First, though, I present an exploration of relevant decision-making theory focused at the policymaker (i.e., elected official) level instead of the bureaucratic level. Although Part Two of my dissertation addresses the political power of the centropoly, its power is in influencing those who make the policy decisions. One should therefore consider decision-making theory in light of the power of the centropoly. Here I briefly examine Lindblom's incrementalism theory, Tsebelis's veto player theory, and Kahneman and Tversky's prospect theory, and then place them in context with public choice theory.

As pointed out in Atkinson (2011), Charles Lindblom introduced the theory of incrementalism in decision-making in 1959 and continued to expand and revise this theory throughout his career. As summarized by Atkinson (2011, 10), incrementalism consists of decision makers engaging in "a local search for options" when "certainty regarding outcomes or agreement over core values" is absent. This process produces "small adjustments from the status quo premised on *what is practical and what is possible*" (Emphasis added). Lindblom adjusted his theory during his scholastic career, expanding it to include what he termed *partisan mutual adjustment*, a term referring to large-scale policy decisions, hence broadening the concept of incrementalism to issues larger than everyday, small-scale political decisions.

Importantly, notes Atkinson (2011, 11), Lustick (1980) agrees with Lindblom's basic theory but limited it by arguing incrementalism "works well in situations where … there are no thresholds or sharp discontinuities" (e.g., no drastic departures from past policy, funding, or bureaucratic control, which could result in a partisan split among policymakers). Atkinson (2011, 11) notes that Howlett and Ramesh (2003) argue incrementalism is but one of several decision-making styles, one that is "best suited … to situations in which the policy context is relatively simple, and the constraints on decision makers are relatively high."

I argue that school choice in America, exemplified by charter schools, represents a "sharp discontinuity" from the status quo of the centropoly, since it represents a drastic departure from the

past arrangement between policymakers and the centropoly. School districts – as well as the state and federal education departments that support and oversee them, see in any school choice option the threat of losing student enrollment to these other schools. Importantly, centropoly funding is driven by enrollment. Just as importantly, the larger the centropoly's representation among a policymaker's constituency, the greater is its influence on the policymaker's vote. Because of the high stakes the policy context is not simple nor the constraints on decision makers low. Hence, policymakers expecting school choice reform to occur under an incrementalist approach would see disappointment instead.

I argue further that the following two theories of decision-making provide a better basis for a policymaker's choice to pursue school choice. As explained previously, school choice is a direct threat to the power of the centropoly in at least three ways. School choice threatens to (a) reduce the monopolistic power of the school districts; (b) reduce the centropoly's material resources (i.e., money and staff); and therefore (c) reduce the centropoly's power in general.

Tsebelis (2000) contrasts incrementalism with the veto player theory of decision-making Tsebelis bases his theory on a constitutional distinction regarding the basis of "support and authority for executives, legislatures and judiciaries…." When a constitution provides for independent support bases, there are relatively many "veto [control] points" (Atkinson, 2011, 13). In brief, the veto player theory maintains a quantitative basis. Atkinson (2011, 13) points to a quotation by Tsebelis (1999, 605) for clarification: "Significant policy change is more difficult to achieve as the number of veto players increases."

Atkinson (2011, 13) critiques the veto player theory for being "deterministic and mechanical," stating further:

> In the veto player model policy assumes a stop-and-go quality with a heavy emphasis on stop. There is no allowance for mutual adjustment beyond the institutional core, even though research shows that governments, hemmed in by

> coalition partners, constitutional veto players, and the tyranny of the electoral cycle, can be both pragmatic and imaginative.

Atkinson's critique is apt when considering the policymaker's decision to support or oppose school choice. When considering school choice, the veto player theory applies to constitutional, quantifiable characteristics of a state's political landscape. A state's constitution can and has played an important role in the success or failure of various states' choice proposals. Limiting this discussion to only charter schools, the Kansas constitution serves as an example. The *Kansas Constitution*, Article 6, establishes an independent State Board of Education "which shall have general supervision of public schools…." and which is answerable to neither the Governor nor the Legislature. Some have noted this constitutional construction might place the State Board of Education as a coequal to the three branches of Kansas government in some ways, including the control over charter schools.

As Atkinson (2011, 14) notes, Kahneman and Tversky (1979) developed prospect theory which addresses the risks associated with decision-making. While risk reduction assessment is essential to both incrementalism and prospect theory, the latter argues that decision makers use heuristics, such as looking for "similarities in decision situations" to assist them in dealing with uncertainty. In short, says Atkinson (2011, 14), "Prospect theory's most important contribution … is the observation that people behave differently in confronting decision situations in which outcomes are framed as losses compared to gains."

Both the veto player and prospect theories of decision-making fit – to some extent, at least – the decision process of enacting charter school laws. The veto player theory, though strict and mechanical, can at least serve as an additional incentive (or disincentive) to pursue such legislation, depending on a state's constitutional structure and language. The prospect theory is even more applicable, as it places decision-making squarely in the realm of risk assessment.

Both theories comport with the public choice notion of rational self-interest. Nobel laureate James M. Buchanan is noted for describing public choice theory as "politics without romance" (Buchanan, 2003, 13). Public choice theory posits that those who have sought election wish to maximize their chances of winning the next election (Brennan, n.d.). Given the unromantic, private goal maintained by elected policymakers of winning the next election, Brennan comments:

> The logic of public choice theory is that we need to take seriously the fact that government is a complex social machine inhabited by people who are, more or less, the same as everyone else and in which periodic elections play a central role. The critical question for assessing policy is not 'what policy is the best we can imagine?' but rather, 'what, from what we know of real-world politics, is the policy that's most likely to actually emerge from the policy determination process?' (Brennan, n.d.)

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Chapter 5 – Public School FTEs as a Predictor of Low Charter School Enrollment

Introduction

Charter schools have served several purposes, not the least of which is to provide an alternative to the traditional public school (TPS) system, especially for students who otherwise have little chance of leaving their local public school. Charters have grown rapidly but not uniformly across states. With vastly different or nonexistent laws among the 50 United States, charter school enrollment in 2018 ranged from 0.0 to nearly 17.1 students for every 100 public school students enrolled.[51]

On another public education metric, in 2016 the 50 states employed from 1.5 to 3.8 full-time equivalent (FTE) public school staff per 100 adults. Many have known that charter school laws differ in strength, which results in charter school enrollment differences. Fewer likely knew that the proportion of TPS FTE staff differs among the states by a factor of more than two. Here I show that these variables are strongly related, with evidence to suggest why and how these relationships exist.[52]

U.S. public school politics are complicated and intertwined. More than 200 years of TPS history have effectively produced a monopolized, centralized, and layered system. The question I pose here is: To what extent has this system itself slowed or stopped school alternatives for students otherwise unable to leave their assigned TPS schools?

Charter schools emerged in the recent past as one such alternative. Most early charter school political research, however, stopped short of examining the TPS institution itself. Past

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[51] The District of Columbia's 2018 charter school enrollment amounted to 44.3 students per 100 TPS students enrolled. I exclude Washington, D.C. from this analysis, primarily because the entire U.S. Congress decides its charter school law. Additionally, its enrollment proportion is clearly an outlier when compared to the 50 states.

[52] Some have suggested another research direction, i.e., measures of TPS FTE staff proportional to TPS enrollment and to cost per pupil. The purpose for such research would be to assess whether a cost difference exists between low-staff and high-staff states.

research primarily addresses party politics, rural-versus-urban politics, teacher unions, and race or ethnicity in examining the strength of the charter school movement.

Only recently have scholars explored the extent to which the TPS system itself might prevent the creation of alternative schooling opportunities for those who cannot afford to leave the school system. This literature is important, since the conglomerate history of TPS reform has produced a layered bureaucracy which, I suspect, frequently works to close off alternatives. I seek here to quantify the extent to which this turf-protective tendency is associated with the presence or lack of strong charter school laws and resultant charter enrollment.

The remainder of this paper proceeds as follows. In Section 2, I review the literature regarding charter school politics. I explain my hypotheses in Section 3 and summarize my methodology and results in Section 4. Controlling for variables shown in previous research to be associated with charter market share and for which multiple-year data exist, I test for an association between proportional charter enrollment and the proportional size of TPS FTE staffs, to determine whether this measure of the political strength of traditional public schools is associated with charter enrollment.

This comparison carries the potential limitation of how to interpret any relationship derived from regressing charter market share on TPS FTE proportion. The likelihood is high that the relationship between these two variables is endogenous – that is, the question becomes to what extent each of these variables influences the other. On the one hand, according to public choice theory the TPS institutional pull would yield a negative association (i.e., charter enrollment would be expected to decline as TPS FTE increases, because staff increases result in increased TPS system power); on the other hand, a strict zero-sum analysis of staffing requirements based on enrollment between TPSs and charters could lead one to predict a positive

association (i.e., increased charter enrollment would be expected to decrease TPS FTE requirements). Although using panel data and fixed effects regression helps to remove endogeneity, I also employ additional analyses to mitigate the problem (Section 5). As I deepen the findings, a clearer picture emerges of how the TPS institution might prevent alternative learning opportunities offered by charter schools. My ultimate goal is to understand institutional inflexibility in the context of learning alternatives and for what it might be doing to students in trade for adults' job security and institutional control. I discuss these and other implications in Section 6.

Literature Review

Charter school politics are complicated and attempts to understand them have been ongoing since the charter movement's inception in 1991. Having grown partially out of the broader school choice movement, charter schools have inherited some of the political issues surrounding school choice in the U.S., though the tension and complexity might play out differently among the different varieties of educational choice. Race and partisan politics are two of the primary issues, although researchers have studied other issues as well. On the other hand, influence by other forces, such as an early connection to teachers' union officials, might cause differences between charter school and private school choice politics.

When examining charter school politics, it is important to look beyond the surface. One should examine charter school politics as part of the broader category of school choice politics – and, since the advent of the COVID-19 pandemic, perhaps certain TPS district political issues as well. Charter-related political issues also may be divided into several additional subject categories, among them partisan and urban versus rural considerations. Third, charter politics should be examined relative to TPS organizations. Finally, and underlying all considerations,

charter-related politics influence the strength of charter laws as well as whether a charter law exists at all. Hence, the mix of a state's charter politics might influence a continuum of results.

Potentially Relevant School District Political Issues

In a paper unrelated to charter schools or school choice specifically, Hartney and Finger (2020) conduct a TPS district-level analysis of influences on COVID-19 related reopening plans by comparing political measures to other influences such as market forces. The authors find that two measures of the political environment – "far more than 'markets' or 'science'" – appear to influence school district reopening plans. These measures are the percentage of voters in the district's county who voted for Donald Trump in the 2016 general election, and the size of a school district as a proxy of teacher union strength. They out-perform both private market share and health-related measures in their predictive power regarding reopening plans. This finding was in large part related to its pandemic setting. There are, however, parallels one can draw between measures Hartney and Finger (2020) examined, and measures related to charter school politics – but importantly, Hartney and Finger's analysis omitted a relevant consideration if one is to transfer the analysis to non-pandemic settings. Partisan politics, union politics, and *TPS* (versus other school options') market share issues could also affect charter school presence and strength in states.

In this study I examine partisan political characteristics based on state-level measures for which yearly data were available. Facing a similar challenge with union analysis, I use Right-to-Work law status as a proxy for union involvement. Noting the authors' consideration of market influences, I include measures for private school enrollment (private competition with charter schools) and per-pupil expenditures (public competition) over time at the state level.

School Choice Politics

Shuls & Wolf (2015) clearly describe the complications of private school voucher politics, noting the simplistic political linkages normally attributed belie their true complexity.

> The politics of school vouchers in the United States are often simplistically and inaccurately portrayed as pitting Republicans against Democrats and whites against minorities. In reality, the political coalitions that have succeeded in passing private school choice laws … consistently involve a blend of African American or Latino Democrats, … due to a concern for social justice and an expectation that minority students will benefit, along with (mainly) white Republicans, … due to confidence in the effectiveness of market-based reforms and the fact that vouchers are a wedge issue for Democrats. Opposition … typically comes from both white and minority representatives of the educational and Democratic political establishment, along with moderate white Republicans representing rural and suburban districts. Thus, the political divide surrounding school vouchers is more new versus old, grassroots versus established, and both ideological extremes versus the ideological middle than it is a simple case of right versus left or white versus black (Shuls, 2018, Abstract).

Shuls (2018) analyzes the intricate relationships and distinctions between personal and political motivations in support for or opposition to school choice programs. In his focus group analysis of St. Louis and Kansas City parents, he points out what appears to be a contradictory stance.

> ….[S]chool choice programs [elicit] mixed emotions from parents. Most participants personally support school choice and … [send] their children to magnet, charter, or private schools. At the same time, they have reservations about broader school choice programs. As Schelling (1978) suggests, these individuals act in their own self-interest despite the impact it might have on the aggregate. More to the point, they are willing to express choice themselves, but deny it to others (Shuls, 2018, 80).

Explaining this contradiction, Shuls (2018, 88) describes the tension between looking out for one's own children and supporting neighborhood schools. "[I]t is not surprising that many parents face a school choice dilemma," Shuls states. "They want to help the local public schools but they are not sure if they should send their children to the struggling district schools."

Charter Schools and Partisan Politics

Wong and Shen (2004) dissect states' charter laws by examining specific charter law characteristics' relationships with each other and with other factors. The authors find that Democratic legislative control results generally in more restrictive laws but is not "universally 'anti-charter.'" (Wong and Shen, 2004, 193). Instead, the relationships depend on which charter school law characteristics are considered.

Hassel (1999) earlier found that party politics, particularly Republican control, are associated with early passage of charter laws and even more strongly associated with strong charter school laws. The author categorizes state legislative party control for the years 1991-1995 into "high-GOP" and "low-GOP" (Republican control of both chambers in more or less than half of these years, respectively). Two-thirds of states (66.7%) with high-GOP legislatures adopted charter laws versus 35.0% of low-GOP states. The ratio of high-GOP to low-GOP states passing strong laws was nearly 3:1 (44.4% versus 15.0%).

Hassel (1999) also tracked party control of the governorship in those years. States with Republican governors were only slightly more likely to pass charter laws: 42.1% versus 38.7% for Democrat governors. The partisan gap widens significantly when examining these independent variables for passage of strong charter laws. Republican governor-controlled states adopted 36.8% of strong laws to Democrat governor states' 9.7%.

Stoddard and Corcoran (2007) conduct a highly detailed state- and district-level analysis. They decline to measure associations between partisan politics and passage or strength of charter school laws, stating they consider such measures, in the context of the states' presumably representative government, to generally reflect "the preferences and demographics of the electorate…" (Stoddard & Corcoran, 2007, 45). An exception was made for a single year, for

which the authors measured the association between Republican governors and charter laws and found no statistically significant effect after controlling for other variables in the model.

Urban versus Rural State Politics

Shakeel and Henderson (2020) review eight years of national survey data and find reduced support for charter schools among rural residents. Using a survey instrument the researchers find that increased information does not lead to greater charter support among rural residents. Hence, the charter school support gap between urban and rural residents appears to remain stubborn. Shakeel and Maranto (2019) note that rural communities have fewer charter schools, probably since rural communities have greater support for traditional schools and less diversity among students, which leads to less demand for schooling options. The authors point to the existence of "successful charter school networks" located in large cities and supported by "highly educated social entrepreneurs … and educational philanthropies…." On the other end of the spectrum, states without charter laws tend to be rural. Similarly, but in mirror image, Hassel (1999) and Wong and Shen (2004) find that urbanized areas are associated with strong charter laws.

Charter Schools and Organizational/Bureaucratic Politics

Several organizations are involved in the operation of traditional public schools (TPSs), and their constituencies might have strong opinions regarding charters. These organizations include teachers, administrators, and parent groups. The politics of these organizations overlap at least minimally if not significantly. The most often-cited example is teachers' unions. Stoddard and Corcoran (2007, 44) find a somewhat complicated relationship between teacher union membership proportion and charter school legal status. The higher a state's percent of teacher union members, the less likely the state was to pass a charter law in the 1990s; the more likely it

was to pass a law later and to pass a weaker law. However, once a law was passed, the association between teacher union membership and percent of students enrolled in charters was positive though weak (when controlling for law strength). Moe (2011) and Maranto (2005) suggest the possibility that strong unions might result in weaker public schools, particularly in urban areas, leading different state-level coalitions to coalesce against alternative schooling options in the weaker-school states. Maranto (2020) further suggests a distinction in school politics between strong-union states such as New York and weak-union states in "flyover country", detailing the perhaps-counterintuitive motives of administrators in emphasizing loyalty rather than academic quality in their schools.

Other TPS-related organizations include school board members, school administrators, state education departments, school employees (not necessarily union-involved), and parent groups. The first two of these organization types are more likely to be organized formally; the third (state education departments) is likely to have a neutral or covertly supportive relationship with TPSs, differentiated by charter school status in the state; the fourth (employees whether union members or not) is likely to be unofficially organized around self-interests related to employment and pay; and the fifth group (parents) is likely to be unorganized or at least less formally organized, and might be either self- or community-interested, or both[53].

Researchers have studied support or opposition in its relationship to charter schools by groups that naturally include parents. Stoddard and Corcoran (2007, 44-45) study charter support by racial and ethnic population proportions. They find that states with proportionately larger Hispanic populations tended to pass earlier and stronger charter laws. The proportion of Black

[53] See, e.g., Shuls, 2018.

population has no significant relationship with "passage, timing, or strength" of charter laws but is strongly related with charter enrollment rate.

Finally, and importantly, two recent studies examine the relationships between TPS organizational strength (measured via staffing counts) and charter school law support or strength. Tran (2020) examines the characteristics associated with passage of the 2016 Massachusetts charter schools referendum and finds no significant association with teacher count. On the other hand, Conaway, Scafidi, and Stephenson (2016) examine the associations between voter support for the successful Georgia 2012 Charter Schools Amendment and a number of county-level characteristics including the percentage of public school employees. The authors find a negative relationship between voter support and public school employees as a percent of the county population. Although these two studies resulted in different findings, both support the analyses contained herein, as will be discussed later.

The goal of this chapter is to further elucidate some aspects of organizational relationships. Importantly, associations need to be examined between drivers of TPS institutional strength and charter school law presence and strength. Although it is frequently agreed that such relationships somehow drive school choice support or opposition, this abstract philosophical agreement has perhaps resulted in only minimal research in the area. Yet, its examination might provide additional information on an organizational predictor of charter law strength and the resulting possibility of charter school enrollment changes. This is ultimately what I seek.

Hypotheses and Data

Here I compare associations with some, but not all, variables shown in previous research to be associated with charter schools. Because I am relying on panel data, I am limited to using variables for which there are measures across time. Additionally, because my model contains

data across several years, I control for population growth to separate its influence from my associations of interest. Finally, recognizing that the potential for bias due to unobserved variables exists, I use a state fixed effects model to control for unobserved differences within states. I further parse this issue by includng year fixed effects in the panel regression model to control for between-state differences across the various years.

Hypotheses

I hypothesize that there is an inverse association between TPS system size/strength and charter law quality. I proportion the state TPS FTE count against the state's adult population, since adults may vote. I proportion charter school enrollment against TPS enrollment.

Data

I employ multiple-year panel data for the 50 states to gain a clearer picture of relationships across time between my dependent variable and my variable of interest plus several controls. By doing so under a panel data fixed effects regression model, I control for unobserved, time-invariant differences within states. Such differences might include intra-state general economic conditions.

Using two rich datasets I determine the covariation between TPS FTEs per 100 adults living in the state and charter school enrollment per 100 TPS students enrolled in the state, while controlling for several variables. I use the National Center for Education Statistics (NCES) Common Core of Data (CCD) for all TPS, charter school, and private school information. The CCD, maintained by the U.S. Department of Education and the Institute for Education Sciences, consists of an immense set of enrollment, funding, and staffing data for public schools. NCES provides the data at several levels, including the state level. The *Digest of Education Statistics*, an annual compendium of data tables within the CCD, provided all charter school enrollment

data and TPS staff and enrollment data used for my analysis.[54] I use the U.S. Census Intercensal Estimates for data on the population of residents aged 18 and over and the population by race and ethnicity. I use data on expenditures per pupil, adjusted for regional cost differences, maintained by the Annie E. Casey Foundation. Additionally, I use state-level historical data obtained from Ballotpedia regarding the political party mix of the governor's and state legislative offices.

Variables

I employ one dependent variable: $ChEnr_{it+2}$, which represents a state's charter enrollment in a particular year for every 100 TPS students enrolled that year in the state. I derive these variables using data from the NCES Digest of Education Statistics and the U.S. Census Intercensal Estimates. Because charter enrollment data were available at the state level only for certain school years, my analysis is limited to school years 2000-2006 and 2010-2016. Note I use a measurement of charter enrollment that follows the FTE measure by two years, in keeping with my hypothesis that TPS power (relative proportional FTE) predicts the charter school enrollment probability and would therefore take time to materialize.

My variables of interest are represented by the vector FTE_{it} and include the proportion and annual percentage change of TPS FTE per 100 adults (for state i and year t). The latter variable, reflecting annual percentage change, helps to control for endogeneity between the dependent variable and my primary variable of interest. These data also are derived from NCES Digest and U.S. Census data.

Demographic and other controls include the following: Min_{it} – a racial/ethnic breakdown of the percentage of Hispanic students and the percentage of Black or African American students

[54] See https://nces.ed.gov/about/.

who do not identify as Hispanic; $TotalPop_{it}$ – the state's total population, to control for the effect of population growth on the analysis; $PerPupilExpnd_{it}$ – the average expenditures per pupil, adjusted for regional cost differences; $PrivEnr100TPS_{it}$ – the average number of private school students enrolled per 100 TPS students enrolled in the state (as noted, data were available only for every other year so sample size is compromised when using this variable); $PartyMix_{it}$ – categorical variable indicating a state's legislative and executive office party mix, wherein a "1" indicates complete Republican control (governor's office, both legislative chambers), "2" indicates complete Democrat control, "3" indicates a partisan split between the governor's office and the legislative chambers; and "4" indicates a partisan split between the legislative chambers; Year variables; and Right-to-Work variables – a vector of variables including a binary variable, wherein the value of "1" is given if the state has maintained Right-to-Work status for the duration of its charter school law, and an interaction between Right-to-Work status and proportional TPS FTE. Note I employ these variables in my second analytical model. I obtained this dataset from the National Conference of State Legislatures (NCSL).

Research Design and Results

Descriptive Analysis

Tables 6 and 7 provide the parameters of the variables I employ in my model. As shown, although there are more total observations for the variable of interest (proportional TPS FTE) and the controls, the lack of observations in several years for the dependent variable (proportional Charter enrollment) limits the observations used in much of the analysis. Also, as noted the limited data available for private school enrollment further reduces the sample size in models employing this control.

Table 6
Dependent Variable and Controls

Variable	Obs	Mean	Std. Dev.	Min	Max
Charter Enrollment per 100 TPS Students	650	2.303	2.864	0.000	18.635
Total Population (log)		15.132	1.012	13.111	17.483
Pct Black Non-Hispanic	850	10.097	9.417	0.283	37.357
Pct. Hispanic	850	9.984	9.730	0.683	48.535
Expenditures per Pupil (Adj. Reg. Cost Difcs.; avg.)	850	10668	2980	4895	22506
Expenditures per Pupil (Adj. Reg. Cost Difcs.; log)	850	9.238	0.268	8.496	10.022
Private Enrollment per 100 TPS Students	399	11.440	4.853	2.381	28.062
Party mix	850	n/a	n/a	1.000	4.000
Year	850	n/a	n/a	2000	2016

Table 7 describes attributes of my variable of interest, for all 50 states as well as for Right-to-Work (RTW) and non-RTW states. Note there is little difference between the maximum values for RTW and non-RTW states, but the minimum value for RTW states is approximately 0.4 FTE per 100 adults less than the minimum value for non-RTW states.

Table 7
Variable of Interest, Right-to-Work States

FTE Per 100 Adults	Obs	Mean	Std. Dev.	Min	Max
RTW States	391	2.760	0.506	1.127	3.898
Non-RTW States	459	2.660	0.463	1.591	3.890
All States	850	2.706	0.485	1.127	3.898

Initial Research Design

I employ OLS regression methods on panel data to determine the association between charter market share and TPS strength once I have controlled for a number of state-level characteristics examined in previous studies. My equation is as follows:

$$ChEnr_{it+2} = \beta_0 + X_1\beta_1 FTE_{it} + X_2\beta_2 Min_{it} + x_3\beta_3 TotalPop_{it}$$

$$+ x_4\beta_4 PerPupilExpnd_{it} + x_5\beta_5 PrivEnr100TPS_{it} + X_6\beta_6 PartyMix_{it} + \varepsilon$$

where $ChEnr_{it+2}$ is the charter school enrollment per 100 TPS students enrolled for state i in year t+2 (two years after measurement of FTE_{it}); FTE_{it} is a vector of variables representing proportional TPS FTE per 100 Adults, including the proportion and annual percentage change of public school FTEs per 100,000 adults; Min_{it} is a vector of variables representing the percentage of non-Hispanic Blacks and Hispanics in a state; $TotalPop_{it}$ is a variable representing the log of total population; $PerPupilExpnd_{it}$ is the average expenditures per pupil, adjusted for regional cost differences; $PrivEnr100TPS_{it}$ is the average number of private school students enrolled per 100 TPS students enrolled; $PartyMix_{it}$ is a categorical variable indicating a state's legislative and executive office party mix, wherein a "1" indicates complete Republican control (governor's office plus both legislative chambers), "2" indicates complete Democrat control, "3" indicates a partisan split between the governor's office and the legislative chambers; and "4" indicates a partisan split between the legislative chambers; *Year* is the school year; and ε represents the error term.

Initial Results

Table 8 displays the results. Here I include the analysis without, and then with, the private enrollment proportional variable. As mentioned, private enrollment data were available for only every other year, thus decreasing the sample size considerably. Exhibiting the results in this manner illustrates the effect of the smaller sample size as well as the variables themselves.

As shown, all other things being equal, a state's TPS FTE per 100 adults has nearly a 1:1 inverse association to charter enrollment per 100 TPS students, significant at the 99 percent confidence level (p=0.01), when employing Model A (without private enrollment). In other words, a one-unit increase in the FTE per 100 adults is associated with a 0.951-unit decrease in charter enrollment per 100 TPS students (p=0.01). When employing Model B (with private

enrollment but without per-pupil expenditures), the coefficient expands to a loss of nearly 1.6 charter students per 100 TPS students enrolled (p=0.05). Model C, the complete model (albeit with a smaller sample size), results in a slightly smaller (1.534-unit) decrease (p=0.05). Hence, the null hypothesis (i.e., no inverse association between proportional charter enrollment and proportional TPS FTEs) is rejected, regardless of the model employed.

The table also shows a highly statistically significant (p=0.01) association between charter enrollment per 100 TPS and the following variables:

- Total population (log) – All other things equal, controlling for total population separates the effect of population growth from the associations of interest. As shown in Table 5, a 1 percent increase in total population is associated with an approximately 0.08- to 0.10-unit increase in charter enrollment per 100 TPS students, depending on the model examined.
- Percent of the population who are of Hispanic descent – Growth in the Hispanic population is associated with an increase in proportional charter enrollment. Every percentage point increase in Hispanics in a state is associated with an increase of approximately 0.4 to 0.5 students in charter enrollment per 100 TPS students depending on the model chosen, all things equal. Note again that the proportion of Hispanics within states has been increasing over time.

All other things equal, with every percentage point increase in Black Non-Hispanics in the state, charter enrollment per 100 TPS students is predicted to decrease by nearly 0.4 units in any of the models, although only the Model A coefficient is statistically significant. Note that Stoddard and Corcoran (2007) earlier found a strong relationship between Black proportion and charter enrollment growth. However, when considering this finding, it is important to remember

that over time, the within-state percentage of Blacks has decreased in recent years, while the within-state charter enrollment has generally increased. Hence, this negative coefficient, highly statistically significant but not large, could be an artifact of these shifting demographic patterns over time.[55]

Private enrollment per 100 TPS students is associated with a 0.13- (Model B) or 0.14- (Model C) unit charter school enrollment reduction (p=0.05). Expenditures per pupil appear to be associated with a statistically insignificant charter school enrollment reduction.

The variables regarding political party mix appear to weakly reinforce previous research, if at all. All other things equal, and relative to years in which Republicans held the governor's office and the majorities of both state legislative chambers, a partisan split among these three state-level elective office groups is associated with approximately a 0.3- to 4-unit decrease in charter enrollment per 100 TPS students (p=0.05 or p=0.1 in Model A; p>0.1 otherwise).

[55] It is also possible that other factors influence this coefficient. A newly developing literature is surfacing which provides evidence that African American adults might oppose TPS alternatives for the rational reason that they are successful in seeking and keeping employment in the TPS system. See, e.g., Carroll, Cheng, Maranto, & Teodoro (In Press), who advance a "theory of race and ambition, in which individuals respond rationally to their career opportunities in light of their own racial identities (Carroll, et al., 4)." The authors posit that "Black individuals perceive public education administration as offering promising career opportunities relative to other alternatives (Carroll, et al., 3-4)," largely because of the job discrimination experienced historically by African Americans. Further study is important to analyze this potential nexus between race and institutional control.

Table 8

Original Model: Potential Predictors of Charter School Enrollment in the 50 States

Charter Enrollment per 100 TPS Students	(A) 50 States; PP Exp Incl; Priv Enr Excl	(B) 50 States; PP Exp Excl; Priv Enr Incl	(C) 50 States; Both PP Exp and Priv Enr Incl
TPS FTE/100 Adults	-0.951***	-1.572**	-1.534**
	(0.344)	(0.617)	(0.617)
Ann. Pct. Change: TPS FTE/100	0.017*	0.014	0.016
	(0.010)	(0.021)	(0.021)
Total Population (log)	7.944***	9.906***	9.419***
	(1.762)	(2.838)	(2.858)
Pct Black Non-Hispanic	-0.384***	-0.341	-0.358
	(0.146)	(0.234)	(0.234)
Pct. Hispanic	0.524***	0.461***	0.408***
	(0.086)	(0.131)	(0.136)
2.Party-All 3 Dem. (Gov, Sen, Hs)	-0.050	-0.115	-0.037
	(0.182)	(0.279)	(0.284)
3.Party: Split, Gov Different	-0.311**	-0.346	-0.309
	(0.156)	(0.249)	(0.250)
4.Party: Split, Sen/Hs Different	-0.323*	-0.35	-0.289
	(0.176)	(0.274)	(0.277)
2002.year	0.095		
	(0.222)		
2003.year	0.086	-0.075	0.079
	(0.234)	(0.243)	(0.269)
2004.year	0.151		
	(0.256)		
2008.year	0.452		
	(0.434)		
2009.year	0.484	-0.2	0.529
	(0.453)	(0.363)	(0.662)
2010.year	0.686		
	(0.468)		
2011.year	0.681	-0.128	0.641
	(0.481)	(0.415)	(0.715)
2012.year	0.883*		
	(0.499)		
2013.year	1.071**	0.209	1.058
	(0.526)	(0.452)	(0.787)
2014.year	1.166**	0.328	1.234
	(0.553)	(0.464)	(0.830)
2015.year	1.410**		
	(0.580)		
2016.year	1.524**		
	(0.613)		
Expenditures per Pupil (Adj. Reg. Cost Difcs.; log)	-1.086		-1.498
	(0.748)		(1.137)
Private Enrollment per 100 TPS Students		-0.131**	-0.138**
		(0.063)	(0.063)
Constant	-106.7***	-142.5***	-121.2***
	(28.120)	(41.910)	(44.860)
Observations	649	300	300
R-squared	0.643	0.642	0.645
Number of state_id	50	50	50

Standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

Additional Analyses and Results

As stated previously, the analyses shown in Table 8 are limited by suspicion of endogeneity between the dependent variable, proportional charter enrollment, and the primary independent variable of interest, proportional TPS FTE per 100 adults. Although I address this endogeneity to some extent with the panel data fixed-effects method and the secondary variable of interest, annual percentage change in TPS FTE per 100 adults, some concern remains.

Two characteristics researched in previous literature are absent from my initial analysis: union strength and rural versus urban populations. Multiple-year data were unavailable for both of these variables. Creating a workaround for the rural-versus-urban population spread in states might be challenging because of changing demographic patterns in some areas. Hence, this study is limited to some extent by the exclusion of this control variable. Later I discuss the extent to which the rural nature of states might be reflected in the RTW analyses.

However, union strength can be proxied using states' status with regard to Right-to-Work (RTW) laws. RTW laws grant states the authority to determine whether workers must join a labor union to get or keep a job (NCSL, n.d.). States without RTW laws therefore allow unions to determine this employment criterion. As of this writing, 27 states had RTW laws and 23 states allowed unions to control union membership as an employment criterion (NCSL, n.d.).

I create a binary variable wherein a "1" indicates a state is a RTW state, and a "0" indicates the state does not have a RTW law. While most of states' RTW laws have existed for decades, a few states passed their laws only recently. To account for this issue in my data, I count as "RTW states" only those states that had RTW laws in place during the entire span of time their charter school laws have been in place. This restriction results in 23 states with RTW laws for my analysis, and I count the remaining 27 states as non-RTW states.

With the RTW variable added, I first segregate the two state groups and redeploy my models for each group. Along with the strong, highly statistically significant, negative coefficient of interest in the original model resulting from the 50-state analysis, anecdotal evidence influenced me to not expect to see a large difference between the two state groups. Anecdotally, I knew that Arizona and Kansas both were RTW states, even though they were on opposite ends of the spectrum on both my dependent variable and my independent variable of interest. However, my analysis lacks the potentially important consideration of states' relative rural nature. Therefore, I make no hypothesis about the relationship between proportional charter enrollment and proportional TPS FTE staff.

Table 9 shows the results of this initial RTW analysis alongside those of the original 50-state regression. As shown, the two state groups diverge dramatically. All other things being equal, states with RTW laws show an even larger negative and statistically significant association between proportional TPS FTE and proportional charter school enrollment than did all 50 states in the initial models; further, states without RTW laws show a positive, though statistically insignificant, association between these two variables.

The fact that the coefficient for my variable of interest diverges so dramatically between the two groups of states provides evidence that endogeneity between the dependent variable and the variable of interest is minimal. If the relationship were endogenous, one would expect similar coefficients between the two groups of states.[56]

This was not the only coefficient by which the two state groups differ. All other things equal, racial and ethnic differences are more pronounced and party politics make a bigger

[56] Some experts recommend controlling for endogeneity in situations such as these by regressing the year-to-year change in the variables in question. While here I use another way to control for endogeneity which reveals important underlying associations, I show the year-to-year change regression results in Appendix C.

difference in RTW states (though statistical significance varies depending on the model used). Moreover, a pattern emerges between the two state groups when examining the year fixed effects, with RTW states generally showing negative associations for most years while non-RTW states generally show positive associations, all else equal.

Table 9

Potential Predictors of Charter School Enrollment: Right-to-Work Law Segregated-States Analysis

	Model A: PP Exp Included; Priv Enr Excluded			Model C: Both PP Exp and Priv Enr Incl.		
	(1)	(2)	(3)	(1)	(2)	(3)
Charter Enrollment per 100 TPS Students	50 States; No RTW Distinction	States w/ RTW Laws	States w/o RTW Laws	50 States; No RTW Distinction	States w/ RTW Laws	States w/o RTW Laws
TPS FTE/100 Adults	-0.951***	-2.801***	0.331	-1.534**	-3.910***	0.0869
	(0.344)	(0.672)	(0.356)	(0.617)	(1.145)	(0.624)
Ann. Pct. Change: TPS FTE/100	0.017*	0.029*	-0.004	0.016	0.053	-0.025
	(0.010)	(0.016)	(0.011)	(0.021)	(0.035)	(0.021)
Total Population (log)	7.944***	17.75***	7.057***	9.419***	21.25***	8.117**
	(1.762)	(3.603)	(2.063)	(2.858)	(5.895)	(3.250)
Pct Black Non-Hispanic	-0.384***	-0.799***	-0.308*	-0.358	-0.471	-0.533*
	(0.146)	(0.220)	(0.176)	(0.234)	(0.364)	(0.287)
Pct. Hispanic	0.524***	0.770***	0.313***	0.408***	0.716**	0.113
	(0.086)	(0.178)	(0.082)	(0.136)	(0.273)	(0.136)
2.Party-All 3 Dem. (Gov, Sen, Hs)	-0.050	-0.788**	-0.198	-0.037	-0.527	-0.435
	(0.182)	(0.358)	(0.194)	(0.284)	(0.562)	(0.307)
3.Party-Split, Gov Different	-0.311**	-0.830***	-0.546***	-0.309	-1.062**	-0.668**
	(0.156)	(0.268)	(0.175)	(0.250)	(0.459)	(0.278)
4.Party-Split, Sen/Hs Different	-0.323*	-0.623*	-0.059	-0.289	-0.433	-0.059
	(0.176)	(0.357)	(0.172)	(0.277)	(0.568)	(0.269)
2002.year	0.095	-0.304	0.27			
	(0.222)	(0.371)	(0.229)			
2003.year	0.086	-0.762*	0.549**	0.079	-0.873*	0.626**
	(0.234)	(0.396)	(0.242)	(0.269)	(0.470)	(0.280)
2004.year	0.151	-1.277***	0.912***			
	(0.256)	(0.456)	(0.263)			
2008.year	0.452	-3.175***	2.323***			
	(0.434)	(0.879)	(0.426)			
2009.year	0.484	-3.431***	2.546***	0.529	-3.986***	3.131***
	(0.453)	(0.913)	(0.446)	(0.662)	(1.435)	(0.645)
2010.year	0.686	-3.398***	2.826***			
	(0.468)	(0.942)	(0.462)			
2011.year	0.681	-3.735***	2.990***	0.641	-4.485***	3.541***
	(0.481)	(0.970)	(0.482)	(0.715)	(1.561)	(0.706)

-continued next page-

Table 9 (cont.)
Potential Predictors of Charter School Enrollment: Right-to-Work Law Segregated-States Analysis

2012.year	0.883*	-3.686***	3.262***			
	(0.499)	(0.998)	(0.501)			
2013.year	1.071**	-3.705***	3.509***	1.058	-4.596***	4.235***
	(0.526)	(1.059)	(0.529)	(0.787)	(1.714)	(0.783)
2014.year	1.166**	-3.872***	3.758***	1.234	-4.791***	4.602***
	(0.553)	(1.111)	(0.558)	(0.830)	(1.790)	(0.836)
2015.year	1.410**	-3.855***	4.081***			
	(0.580)	(1.163)	(0.586)			
2016.year	1.524**	-4.037***	4.333***			
	(0.613)	(1.226)	(0.620)			
Expenditures per Pupil						
(Adj. Reg. Cost Difcs.; log)	-1.086	3.793**	-3.523***	-1.498	4.416*	-4.665***
	(0.748)	(1.593)	(0.709)	(1.137)	(2.480)	(1.086)
Private Enrollment				-0.138**	-0.109	-0.135**
per 100 TPS Students				(0.063)	-0.141	(0.062)
Constant	-106.7***	-287.1***	-74.77**	-121.2***	-344.7***	-74.3
	(28.120)	(57.080)	(31.880)	(44.860)	(94.850)	(49.380)
Observations	649	298	351	300	138	162
R-squared	0.643	0.65	0.751	0.645	0.661	0.769
Number of state_id	50	23	27	50	23	27

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

To provide greater precision, I employ an interaction between states' FTE per 100 adults and their RTW law status. I revise my model as follows, by adding an interaction variable.

$$ChEnr_{it} = \beta_0 + X_1\beta_1 FTE_{it} + X_2\beta_2 Min_{it} + x_3\beta_3 TotalPop_{it}$$
$$+ x_4\beta_4 PerPupilExpnd_{it} + x_5\beta_5 PrivEnr100TPS_{it} + X_6\beta_6 PartyMix_{it}$$
$$+ x_7\beta_7 FTE\_RTW_{it} + \varepsilon$$

where FTE_RTW_{it} is the interaction between proportional TPS FTE and the binary variable wherein a "1" represents states with RTW laws.

As shown in Table 10, the association between proportional TPS FTE and proportional charter enrollment results in an additional coefficient of -1.267 ($p=0.1$) or -1.001 ($p>0.1$), depending on the model, in states with RTW laws, all things equal. This coefficient is additive to that of states without such laws, i.e., -0.5 or -1.125 ($p>0.1$). Hence, in states with RTW laws, a one-unit increase in TPS FTE per 100 adults is associated with a 1.8- to 2.1-unit decrease in charter enrollment per 100 TPS students enrolled. The joint significance test shows the addition of the interaction term, along with the FTE variable, is significant at the 95% confidence level in the complete model.

Table 10

Potential Predictors of Charter School Enrollment: Right-to-Work Law Interaction

	Model A: PP Exp Included; Priv Enr Excluded				Model C: Both PP Exp and Priv Enr Incl.			
Charter Enrollment per 100 TPS Students	(1) 50 States; No RTW Distinction	(2) States w/ RTW Laws	(3) States w/o RTW Laws	(4) RTW Interaction	(1) 50 States; No RTW Distinction	(2) States w/ RTW Laws	(3) States w/o RTW Laws	(4) RTW Interaction
Difference in effect of TPS FTE/100 Adults on Charter Enr: RTW vs. non-RTW States				-1.267* ~				-1.001 ~
				(0.646)				(1.077)
TPS FTE/100 Adults	-0.951***	-2.801***	0.331	-0.496	-1.534**	-3.910***	0.0869	-1.125
	(0.344)	(0.672)	(0.356)	(0.414)	(0.617)	(1.145)	(0.624)	(0.758)
Ann. Pct. Change: TPS	0.017*	0.029*	-0.004	0.016	0.016	0.053	-0.025	0.016
FTE/100	(0.010)	(0.016)	(0.011)	(0.010)	(0.021)	(0.035)	(0.021)	(0.021)
Total Population (log)	7.944***	17.75***	7.057***	7.535***	9.419***	21.25***	8.117**	8.937***
	(1.762)	(3.603)	(2.063)	(1.770)	(2.858)	(5.895)	(3.250)	(2.906)
Pct Black Non-Hispanic	-0.384***	-0.799***	-0.308*	-0.412***	-0.358	-0.471	-0.533*	-0.374
	(0.146)	(0.220)	(0.176)	(0.146)	(0.234)	(0.364)	(0.287)	(0.235)
Pct. Hispanic	0.524***	0.770***	0.313***	0.534***	0.408***	0.716**	0.113	0.421***
	(0.086)	(0.178)	(0.082)	(0.086)	(0.136)	(0.273)	(0.136)	(0.137)
2.Party-All 3 Dem.	-0.050	-0.788**	-0.198	-0.024	-0.037	-0.527	-0.435	-0.006
(Gov,Sen,Hs)	(0.182)	(0.358)	(0.194)	(0.182)	(0.284)	(0.562)	(0.307)	(0.286)
3.Party-Split, Gov Different	-0.311**	-0.830***	-0.546***	-0.297*	-0.309	-1.062**	-0.668**	-0.285
	(0.156)	(0.268)	(0.175)	(0.155)	(0.250)	(0.459)	(0.278)	(0.251)
4.Party-Split, Sen/Hs Different	-0.323*	-0.623*	-0.059	-0.281	-0.289	-0.433	-0.059	-0.273
	(0.176)	(0.357)	(0.172)	(0.177)	(0.277)	(0.568)	(0.269)	(0.278)

Table 10 (cont.)

Potential Predictors of Charter School Enrollment: Right-to-Work Law Interaction

	Model A: PP Exp Included; Priv Enr Excluded				Model C: Both PP Exp and Priv Enr Incl.			
Charter Enrollment per 100 TPS Students	(1) All 50; No RTW	(2) RTW States	(3) Non-RTW States	(4) RTW Interaction	(1) All 50; No RTW	(2) RTW States	(3) Non-RTW States	(4) RTW Interaction
2002.year	0.0951	-0.304	0.27	0.066				
	(0.222)	(0.371)	(0.229)	(0.222)				
2003.year	0.086	-0.762*	0.549**	0.055	0.079	-0.873*	0.626**	0.058
	(0.234)	(0.396)	(0.242)	(0.233)	(0.269)	(0.470)	(0.280)	(0.270)
2004.year	0.151	-1.277***	0.912***	0.101				
	(0.256)	(0.456)	(0.263)	(0.257)				
2008.year	0.452	-3.175***	2.323***	0.37				
	(0.434)	(0.879)	(0.426)	(0.435)				
2009.year	0.484	-3.431***	2.546***	0.403	0.529	-3.986***	3.131***	0.464
	(0.453)	(0.913)	(0.446)	(0.454)	(0.662)	(1.435)	(0.645)	(0.666)
2010.year	0.686	-3.398***	2.826***	0.6				
	(0.468)	(0.942)	(0.462)	(0.469)				
2011.year	0.681	-3.735***	2.990***	0.59	0.641	-4.485***	3.541***	0.577
	(0.481)	(0.970)	(0.482)	(0.482)	(0.715)	(1.561)	(0.706)	(0.719)
2012.year	0.883*	-3.686***	3.262***	0.798				
	(0.499)	(0.998)	(0.501)	(0.500)				
2013.year	1.071**	-3.705***	3.509***	0.969*	1.058	-4.596***	4.235***	0.985
	(0.526)	(1.059)	(0.529)	(0.527)	(0.787)	(1.714)	(0.783)	(0.791)
2014.year	1.166**	-3.872***	3.758***	1.061*	1.234	-4.791***	4.602***	1.156
	(0.553)	(1.111)	(0.558)	(0.555)	(0.830)	(1.790)	(0.836)	(0.834)
2015.year	1.410**	-3.855***	4.081***	1.305**				
	(0.580)	(1.163)	(0.586)	(0.581)				
2016.year	1.524**	-4.037***	4.333***	1.408**				
	(0.613)	(1.226)	(0.620)	(0.615)				
Expenditures per Pupil	-1.086	3.793**	-3.523***	-0.834	-1.498	4.416*	-4.665***	-1.28
(Adj. Reg. Cost Difcs.; log)	(0.748)	(1.593)	(0.709)	(0.757)	(1.137)	(2.480)	(1.086)	(1.161)
Constant	-106.7***	-287.1***	-74.77**	-102.3***	-121.2***	-344.7***	-74.3	-115.8**
	(28.120)	(57.080)	(31.880)	(28.140)	(44.860)	(94.850)	(49.380)	(45.260)
Observations	649	298	351	649	300	138	162	300
R-squared	0.643	0.65	0.751	0.645	0.645	0.661	0.769	0.646
Number of state_id	50	23	27	50	50	23	27	50

Standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

~ Joint Significance Tests: Variables of Interest:

Variables of Interest	Model A: PP Exp Incl.; Priv Enr Excl.	Model C: Both PP Exp and Priv Enr Incl.
1-Difference in effect of TPS FTE/100 Adults on Charter Enr:RTW vs. non-RTW States; 2-TPS FTE/100 Adults	-1.763 (p=0.01)	-2.126 (p=0.05)

Discussion

I seek to quantify the relationship between a state's traditional public school (TPS) organizational power, measured by the proportion of full-time equivalent (FTE) staff per 100 adults in the state, to the presence and strength of the state's charter school law, measured by the proportion of charter students enrolled per 100 TPS students enrolled two years after the FTE proportional measure. Using a panel data fixed effects model and controlling for variables researched in previous literature for which I could obtain multiple-year data or a suitable alternative, under the interaction model I show evidence of a strong and statistically significant ($p=0.05$) inverse association between a RTW state's FTE per 100 adults and its later charter enrollment per 100 TPS students in the complete model. The ratio between the two variables is approximately -2.1:1; translated, this means that in RTW states every unit increase in the proportion of FTE per 100 adults is associated with a 2.1-unit decrease in charter enrollment per 100 TPS students in those states.

Two control variables show highly statistically significant ($p=.01$) associations under the complete interaction model. The total population and the percent of Hispanic population variables produced positive coefficients. Although highly statistically significant, neither of these coefficients was large. No other associations, including the percent of non-Hispanic Black population, were statistically significant. The percent Hispanic variable coefficient was consistent with findings of previous literature (Stoddard and Corcoran, 2007). The percent Black non-Hispanic coefficient was negative and insignificant, and hence it does not appear to be consistent with previous literature (Stoddard and Corcoran, 2007). However, the proportion of Black population within states has been shrinking relative to other racial and ethnic groups, so the small negative coefficient might be a statistical artifact of this shift.

The controls dealing with partisan split between the governor's office and the two legislative chambers were negative, relative to all being held by Republicans or Republican majorities. However, they were statistically insignificant, making this finding generally null and therefore inconsistent with previous literature.

I am left with the limitation that I have not specifically analyzed rural versus urban differences across states with respect to proportional charter school enrollment, while also considering my TPS power variable of interest. Using the RTW distinctions provides some level of rural-vs.-urban comparative analysis, since strong unions dominate in largely urban states. However, no state is completely rural nor completely urban, and thus additional study would be necessary to conclude with certainty that the RTW-related findings clearly and solidly reflect rural-vs.-urban differences. While questions remain regarding the extent to which the relative rural versus urban nature of these states is driving the differences, it is possible that these differences are (a) related to a state's RTW (and, hence, union) status, and/or (b) reflected in the year fixed effects. In revisiting the segregated results of RTW versus non-RTW states (Table 7, Models 2 and 3), clear differences are apparent between the two state groups. The positive association between log of population growth and proportional charter enrollment growth for RTW states is more than twice the size of that for non-RTW states. Likewise, there are sizeable distinctions between the coefficients for percent Black and percent Hispanic. All of these within-state coefficients, though different for the two state groups, still reflect the same sign – e.g., if negative for one group, the association is also negative for the other group. The year fixed effects analysis, using between-states measures, shows a different outcome, with associations generally being negative for RTW states and positive for non-RTW states. However, these differences do not change the general conclusion that there is a large negative association between proportional

charter enrollment and TPS power as expressed through my variable of interest. Additional research might better illuminate the true situation.

Importantly, these results comport with the literature on two states' charter school politics. Tran (2021) finds that teacher count is not associated with the successful passage of the 2016 Massachusetts charter school referendum, while Conaway, Scafidi, and Stephenson (2016) find to the contrary that public schools exhibited protective power against the 2012 Georgia Charter Schools Amendment Referendum through their staffing numbers. Notably, Georgia is a RTW state, while Massachusetts is not.

Additionally, regarding union politics, Maranto (2005, 2020) and Moe (2011) find that the TPS institution behaves differently in non-union states. Following the results of this analysis coupled with both public choice theory and the previously mentioned literature on non-union states, one might conclude that the TPS institution steps up to defend itself against interlopers.

My major finding provides strong quantitative evidence that the monopolistic, centralized, and multi-layered government institution of public education in at least RTW states has considerable influence on whether and to what extent the charter school alternative can be predicted to exist. In these states the larger the state's TPS institution, the lower the chance for charter educational opportunities to exist. Again, the difference between RTW states and non-RTW states suggests that in RTW states, the institution steps up to protect itself against the charter alternatives. Moreover, based on this analysis, it appears that bureaucratic, rather than partisan, politics affect charter school strength in RTW states.

This finding is particularly concerning for disadvantaged students in RTW states, including low-income students and students of color, who find themselves unable to opt out of the TPS system governing their area of residence. Without alternatives such as high-quality

charters, disadvantaged students will continue to have no choice but to attend the public school assigned to them. Under this system, it is important to remember that the staff in public schools which are filled with students who have no other options – i.e., the institution itself – has little to no incentive to improve the educational outcomes for these students.

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Chapter 6 – Charter School Closing Inequities: Do Automatic Closure Laws Target Black Charter Entrepreneurs and Black Students?[57]

Introduction

Inherent to the charter school innovation is the explicit bargain that in exchange for substantial autonomy, charter schools which fail to succeed will face closure, providing strong incentives for successful outcomes in serving students (Hassel, 1999). Many charter schools do in fact close, though this itself poses issues regarding racial inequity. Paino, Boylan and Renzulli (2017) report that from 1994 to 2005, 1-4% of charter schools closed each year (n=416), with 78% doing so in their first four years after opening. Controlling for variables including school age, size, measured achievement, and free and reduced lunch percentage of students, they find no relationship with the percentage of Hispanic and white enrollment, but that a 1% increase in African American enrollment is associated with a 1% increase in the likelihood of closure. Controlling for age, region, and urbanicity, an 80% African American school would have a roughly 4.6% annual likelihood of closure, compared to roughly 2.3% for an 80% white school. This research does not consider the race of the charter school founder as a predictor of school closure, nor probe potential interaction between race and regulatory policy environment. Both merit consideration, especially given research finding that African American operators are less likely to be awarded charters, particularly where the regulatory barriers to receiving a charter are high (Kingsbury, Maranto & Karns, 2020).

Here, using data from the Elementary/Secondary Information System (ElSi), a National Center for Education Statistics (NCES) web application, as well as successful (i.e. accepted) petitions to open charter schools submitted between 2010-2020, we can provide better

[57] This chapter was coauthored with Ian Kingsbury and Robert Maranto. The paper is currently under review at *Educational Policy*.

understanding of whether charter schools that were founded by African Americans or serve a greater percentage of African American students are more likely to close, and specifically whether the regulatory barriers that disparately preclude market entry also disproportionately predict market exit. As detailed below, the data do in fact indicate that charter schools started by African Americans and serving relatively more African American students are more likely to close, particularly in states with automatic closure provisions.

Literature Review

An enormous literature details multifaceted racial inequities in public schools. Prior work explores a wide range of phenomena including student discipline, student attainment and achievement, and even hiring and promotion into school leadership (works within Milner & Lomotoy, 2014; Carroll, Cheng, Maranto & Teodoro, In Press). Importantly, policymakers created charter schools in part to empower teachers (Cheng, Maranto, & Shakeel, 2020; Maranto, 2015) and to serve marginalized ethnic communities (works in Fox and Buchanan, 2014), but even more to close "achievement gaps" as measured by test scores, particularly for African American and Latinx students (Thernstrom & Thernstrom, 2003). Quantitative evidence indicates that certain charter schools have succeeded in closing achievement gaps (Cheng, Hitt, Kisida & Mills, 2017), though researchers have questioned the means used (Golann, 2015), and whether mere increases in test scores have substantial positive long term impacts on student success (Ladner, 2018). An additional literature offers widely contested findings regarding non-academic impacts from market-based approaches to public schooling, including increased use of charter schooling. For example, former Chicago Public Schools CEO and U.S. Secretary of Education Arne Duncan (2018) argues that closing low performing urban schools and replacing those schools with charter schools or other public school options has short-term costs to students

and their communities, but offers long term benefits by improving human capital among the least well off, offering the most disadvantaged students greater opportunities. In contrast, Morel (2018) contends that closing district schools and replacing them with charter schools politically disempowers communities of color and reduces public employment of African American education professionals. In short, the impacts of charter schooling on racial equity involve complex, intellectually contested terrain.

An important, but less examined aspect of neoliberal education reform begins with the reality that it is not only traditional public schools which close after failing to meet specified criteria. A small, but important literature examines charter school opening and closing, processes which are indeed central to the charter school model, which proposes autonomy in exchange for accountability, including the threat of closure. *Market* accountability is one part of this: if a school fails to please, parents may leave for other options, closing a school by voting with their feet. Yet charter schools also face administrative accountability, disciplinary or closure decisions made by the public bodies such as school boards and state departments of education which granted their charter. In practice administrative accountability may involve highly detailed rulemaking and complex administrative judgements on the part of regulators regarding whether performance is adequate (Hassel, 1999; Maranto, 2015). In practice such decisions, like charter authorization decisions, may reflect the biases of regulators. There is indeed a longstanding literature regarding how regulation has systematically disadvantaged African Americans in housing (Massey & Denton, 1998), professional licensure and employment (Dorsey, 1983; Friedman, 1962), and civil service employment (King, 1995). More recently, some have applied insights from these areas to the provision of charter schools.

While factors including financial stability and academic performance influence charter school approval and survival, research also finds empirical evidence of discrimination in policy-making systems. Using a Critical Race Theory approach to study the charter authorizing process in post-Katrina New Orleans, Henry (2021) argues that a charter authorizing process ostensibly engineered as "neutral, benign, and objective" is in fact a gatekeeping mechanism that tends to privilege elites and punish people of color. Some African American charter entrepreneurs have echoed these concerns. The African American Charter Schools Coalition formed in Philadelphia in 2020, their mission predicated on the observation that Black-led charters face greater obstacles regarding oversight, expansion, and renewal (Graham, 2020).

Regarding charter school closing, studying Florida charter schools, Jameson (2017) finds that measured school academic performance, age, and size all correlate negatively with the likelihood of closure: in short newer, lower performing, and smaller charters are more likely to close. Roughly in accord with these findings, coding charter applications from eight states and New Orleans in the 2010-18 period, Kingsbury, Maranto and Karns (2020) find that charter schools associated with charter management organizations, which are more often led by whites, are less likely to close. Comparing the large and lightly regulated Arizona charter sector to comparable traditional public schools, Milliman (2016) finds that lower academic performance increases the likelihood that charters will close, while having no impact on other public schools. Milliman does not explore the impacts of race. In contrast to Milliman, in a quantitative and qualitative study of North Carolina charter school closures, Paino, Renzulli, Boylan and Bradley (2014) find evidence that market (parent exit), financial, and administrative/bureaucratic factors influence closing; academic results do not have direct impacts. Similarly, in their study of Ohio charter schools, Gilblom and Sang (2019) find little statistical evidence that measured academic

achievement affects the likelihood of charter closure, but considerable evidence that integrated schools are more likely to survive while predominately white and predominately African American schools are more likely to close. Also studying the Ohio charter market, though over a different time period, Carlson and Lavertu (2016) find evidence that mandatory closures of low performing charter schools in Ohio led to modest improvement in charter school academic value added over time, as Duncan (2018) indicated regarding closings of low performing district schools in Chicago.

Here, we build on prior research regarding the role of race and regulation in shaping charter school markets, to test four hypotheses regarding disparate impacts of charter school closing on under-represented communities. We add to the literature by specifically assessing whether automatic closure disparately impacts charter founded by or serving African Americans. Automatic closure laws establish "tripwires" that require authorities to close the school. In non-automatic closure states, charter schools are subjected to individualized progress and procedural assessments likely involving opportunities to correct deficiencies.

We hypothesize that:

- H1: The proportion of African American students in a charter school will be positively related to charter school closure.
- H2: In states with automatic charter closing provisions, schools serving larger percentages of African American students will be relatively more likely to close.
- H3: Charter schools started by African American educational entrepreneurs will be relatively more likely to close than those started by other educational entrepreneurs.
- H4: In states with automatic charter closing provisions, schools started by African American educational entrepreneurs will be relatively more likely to close.

Methods

Testing our hypotheses requires data about which charter schools closed, the student demographics of charters schools, and the race of the charter school founder. The first two variables are available through the Elementary/Secondary Information System (ElSi), a National Center for Education Statistics (NCES) web application. Notably, ElSi does not provide information about *why* certain charter schools closed, but rather the timeframe in which they operated or ceased operating. Ideally, we would be able to disentangle the precise reason why a charter ceased operations--- whether it comes about from charter revocation, voluntary closure, transition into a traditional public school or some other factor---to bring greater clarity to our analyses. This is a limitation in that we lack data to determine whether closings reflect market or regulatory accountability. Policymakers like Keegan (2001) and academics like Maranto (2015) and Yancey (2000) suggest that that regulatory warnings or sanctions may reduce enrollment from parents, suggesting interactions between the two processes. Nevertheless, whether a cessation of operations is a market sanction (i.e. low enrollment or financial mismanagement) or was imposed by external public authorities, the data can test our hypotheses.

Identifying the race of the charter school founder is less straightforward. We code the race of the "contact person" identified on the petition originally submitted for charter authorization. The "contact person" (henceforth, founder) is likely the most deeply involved of the founding members, and their race serves a reasonable proxy for the composition of the founding group (Kingsbury, Maranto & Karns, 2020).[58] Charter school petitions do not identify

[58] Notably, the degree to which the race of the "main contact" reflects the demographics of the founding entity becomes obscured when the individual is affiliated with an education management organization (EMO) or charter management organization (CMO), which can be large, dynamic organizations that employ hundreds of staff. Affiliation with an EMO or CMO is not systematically recorded on charter school petitions or in any publicly available dataset, so we do not code this information. Our inability to control for this variable could increase the likelihood of a type II error.

the racial identity of the founder. We code race by performing an internet search of the name of the founder---along with their affiliated charter school or other details identified in the petition (e.g. place of residence or occupation)---and then use our best judgement to identify their racial classification. McCormick et al. (2015, p. 393) conclude that such practices tend to deliver accurate results, and that social scientists should consider social media "as a valuable source of demographic information to answer relevant social science questions." To assess the validity of our coding process, a second coder reviewed a random sample of 50 charter petitions and coded the race of the main point of contact. The two coders agreed in 45 of 50 cases (intercoder agreement=90%).

Charter school petitions are not publicly housed in one domain. Rather, custody of records varies from state to state, and typically from authorizer to authorizer. To access as many records as possible, we collected all publicly available records of charter schools that opened between 2010-2020.[59] In states with charter school laws that did not make records publicly available, we contacted the state charter agency to request records of charters opened between 2010 and 2020, and then issued official public record requests if our informal request went unanswered. A summary of where the charter petitions were collected from is available in Table 11. Several requests were denied, and we therefore do not have petitions from all states with charter schools. Moreover, because custody varies by authorizer, the petitions we received are typically not the universe of successful petitions submitted in that state, but the ones submitted to a particular authorizer or authorizers. In all, we collected 925 successful petitions from 24 states.

[59] We limit the sample to these years due to our supposition that earlier records might not be digitized or readily accessible.

Table 11
Charter Petitions by State and Means Collected

State	Petitions Collected	How Petitions were Procured
AR	39	Publicly available
AZ	70	Publicly available
CT	6	Shared upon request
CO	51	Received through public records request
DE	9	Publicly available
FL	180	Publicly available
GA	26	Shared upon request
ID	26	Shared upon request
IN	25	Publicly available
LA	22	Shared upon request
MA	27	Publicly available
MO	8	Publicly available
NC	92	Publicly available
NJ	16	Shared upon request
NM	23	Publicly available
NV	3	Shared upon request
NY	146	Publicly available
OH	10	Publicly available
OK	19	Publicly available
OR	5	Shared upon request
PA	30	Received through public records request
RI	8	Shared upon request
SC	68	Received through public records request
TX	16	Publicly available

We use Education Commission of the States (ECS) data (2018) to determine whether a state employs automatic closure laws and the timing of such laws, as seen in Table 12. Notably, ECS categorizes four states (New Hampshire, Rhode Island, Utah, and Washington) as automatic closure states despite statutory language that suggests otherwise. We classify these four states as automatic closure states in our estimates, and confirmed that the underlying results are not sensitive to their inclusion or exclusion.

Table 12
Automatic Closure Provisions by State

State	Statute	Year Adopted
Alabama	Ala. Code § 16-6F-8	2016
District of Columbia	D.C. Code § 38-1802.13; D.C. Code § 38-1802.13	1996
Florida	Fla. Stat. Ann. § 1002.33	2012
Indiana	Ind. Code Ann. § 20-24-2.2-2	2011
Kansas	Kan. Stat. Ann. § 72-1907 (transferred to 72-4209)	1994
Louisiana	La. Rev. Stat. Ann. § 17:3992	1997
Michigan	Mich. Comp. Laws Ann. § 380.507	2009
Missouri	Mo. Ann. Stat. § 160.405(8)(b)	1998
Nevada	Nev. Rev. Stat. Ann. § 388A.300	2013
New Hampshire	N.H. Rev. Stat. § 194-B:16	1995
Ohio	Ohio Rev. Code Ann. § 3314.35	2006
Oklahoma	Okla. Stat. ttl. 70, § 3-137	2015
Rhode Island	R.I. Gen. Laws Ann. § 16-77	2016
South Carolina	S.C. Code Ann. § 59-40-110; S.C. Code Ann. § 59-40-111	2002
Tennessee	Tenn. Code Ann. § 49-13-122	2014
Texas	Tex. Educ. Code Ann. § 12.027; §12.063; and § 12.115	Home Rule charters: 1995; Campus or Campus Program charters: 1997; Open Enrollment charters: 2013
Utah	Utah Code Ann. § 53A-1a-510 (repealed) New Statute: 53G-5-503	2014
Washington	Wash. Rev. Code Ann. § 28A.710.200	2013

Results

Hypotheses 1 and 2 use data from ElSi. Therefore, to test these hypotheses, we use data that encompasses all charter schools that were opened between 2010-11 and 2018-19, the most recent year for which ElSi provides data. We treat schools operating as charters in that year as open, whereas we consider schools opened in 2010-11 or thereafter but closed or operating as traditional public schools (i.e. charter to district conversions) in 2018-19 as closed.

Descriptive statistics (Table 13) lend support to our hypotheses. Among majority Black[60] charter schools, 604 of 1,894 (31.9%) closed. Among all other charter schools, 900 of 4,058 (22.2%) closed. Moreover, automatic closure appears to impact schools differently depending upon their racial composition. In settings with automatic closure, 409 of 1,063 (38.5%) charters that served a majority Black student body closed, compared to just 205 of 1,404 (14.6%) of other charters. By comparison, majority-Black charters in states without automatic closure were 2.7 percentage points *less* likely to close compared to all other schools (23.5% to 26.2%).

Table 13
Charter Closure Rates by Student Racial Composition and Automatic Closure[61]

Student Demographics	Number and % of Charters that Closed	Number/% of Charters that Closed in States with Automatic Closure	Number/% of Charters that Closed in States Without Automatic Closure
Majority Black	604/1,894 (31.1%)	409/1,063 (38.5%)	195/831 (23.5%)
All Others	900/4,058 (22.2%)	205/1,404 (14.6%)	695/2,654 (26.2%)

In our fully specified linear probability model[62] we express closure as a function of the proportion of African American students[63], automatic closure, and an interaction between those

[60] For this and other analysis that uses student demographics, we use ElSi data to calculate the average proportion of African American enrollment during the time period beginning in 2010-11 and ending 2018-19.
[61] Observations from states with automatic closure are categorized as "without automatic closure" if they were closed before the automatic closure provision was enacted. For example, a Florida charter that closed in 2011-12 would not be scored as subject to automatic closure. A Florida charter that closed in 2012-13 or later would be scored as subject to automatic closure. Our method might occasionally misapply an automatic closure label, as school closing information and automatic closure statutes are not defined at a more granular level than the year in which they occurred. These "bubble" schools (i.e. the closure school year overlaps with the timing of the automatic closure statute) comprise less than 1% of our dataset.
[62] ElSi tables specifically denote whether a school has ceased operations. For reasons unclear, sometimes ElSi reports zero enrollment during years in which the school is reported to be operating, although the estimates generally return to a non-zero number after one year. As a sensitivity test, we omitted schools reporting zero enrollment during 2018-19 from the analysis. None of the estimates change in practical terms, and none change in terms of statistical significance.
[63] The proportion of African American students is the average proportion of African American students in the school between 2010-11 and 2018-19, or whatever years the school operated over that span.

two terms, as well as year opened fixed effects, formally:

$$Y = \beta_1 AAShare_i + \beta_2 AutoClosure_{it} + \beta_3 AAShare_i * AutoClosure_{it} + \beta_4\ YearOpened_i + \varepsilon_{it}$$

In this and subsequent models, we include a state fixed effect when automatic closure is not featured as an explanatory variable, but omit it if automatic closure is featured. Given the high degree of collinearity between the two variables, the inclusion of both variables makes interpretation of the automatic closure variable challenging.[64]

[64] As a sensitivity test, we check how inclusion of both state FE and automatic closure impacts our estimates. The impact of the proportion of African American students changes appreciably in model II, increasing from .0003 to .0019 (p=.01). In model III, the coefficient for that variable becomes positive (.0012) and remains statistically significant (p=.01). All told, the models affirm our hypothesis about a disparate impact from automatic closure, although they indicate that all charters are penalized for enrolling more African American students.

Table 14
Racial Composition and Closure Regression Estimates[65]

	I	II	III
Proportion of African American Students	.0019*** (.0002)	.0002 (.0002)	-.0020*** (.0002)
Automatic Closure	-	-.1143*** (.0117)	-.2586*** (.0154)
Proportion of African American Students*Automatic Closure	-	-	.0045*** (.0003)
Year Opened Fixed Effect	Y	Y	Y
State Fixed Effect	Y	N	N
Obs.	5,458	5,458	5,458

*p<.10, **p<.05, ***p<.01.

Regression results (Table 14) support our hypotheses. Among all states, a one percent increase in the share of African American students is associated with a .19 percentage point increase in the likelihood of closure after controlling for year opened and state in which the charter school operates. In the fully specified model (column III), a one percent increase in African American students is associated with a .20 percentage point decrease in the likelihood of closure in states without automatic closure. However, in states with automatic closure, a one percent increase in African American students is associated with a .45 percentage point relative increase in the likelihood of closure compared to states without automatic closure, all else equal. Illustratively, the estimates indicate that a charter school in which 30% of the student body is African American has a 6.0 percentage point lower likelihood of closure compared to a school with no African American students if the school is in a state without automatic closure. However, if the 30% African American school is in a state with automatic closure, the school has a 7.5 percentage point greater likelihood of closing compared to the school with no African American students.

[65] Regression estimates utilize robust standard errors.

Hypotheses 3 and 4 require us to utilize the dataset that we constructed through soliciting charter school petitions and coding the race of the main point of contact. Unadjusted differences (Table 15) hint at the possibility that automatic closure is more punitive to Black charter entrepreneurs than to others. Among schools started by African American charter leaders in states that utilize automatic closure criterion, 53.2% closed compared to just 20.4% of charters founded by others. The incidence of closure is also greater among African American entrepreneurs in states that do not utilize automatic closure criterion, but the difference is substantially less pronounced; Among charters founded by African American leaders in states that do not utilize automatic closure, 18.9% of charters closed compared to 11.5% of charters not founded by African Americans.

Table 15

Charter Closures by Race and Automatic Closure[66]

Point of Contact	Number and % of Charters that Closed	Number % of Charters that Closed in States With Automatic Closure	Number % of Charters that Closed in States Without Automatic Closure
African American	41/132 (31.1%)	25/47 (53.2%)	16/85 (18.9%)
All Others	94/645 (14.6%)	46/226 (20.4%)	48/419 (11.5%)

[66] Observations from states with automatic closure are categorized as "without automatic closure" if they were closed before the automatic closure provision was enacted.

To obtain linear probability estimates we express closure as a function of the race of the founder and other characteristics, formally:

$$Y = \beta_1 AACharterEntrepeneur_i + \beta_2 AutoClosure_{it} + \beta_3 AACharterEntrepeneur_i * AutoClosure_{it} + \beta_4 AAStudentShare_i + \beta_5 AAStudentShare_i * AutoClosure_{it} + \beta_6 YearOpened_i + \varepsilon_{it}$$

Though we already assessed the correlation between student racial composition and closure, we include them in certain iterations of this model. African American charter entrepreneurs are more likely to serve African American students (r=.49), so the inclusion of both variables is important to understand which variable, if either, is driving any observed effect.

Once again, we omit the state fixed effect from models that include automatic closure, as their inclusion makes it challenging to interpret the automatic closure coefficient.[67]

Linear probability estimates support our hypotheses that charter schools started by African American charter entrepreneurs are relatively more likely to close than those started by other charter entrepreneurs, and that they are disproportionately impacted by automatic closure mandates. Specifically, after controlling for state and year opened, charters with African American founders are 18.1percentage points more likely to close compared to others. Estimates also support our hypothesis that African American founders are disparately impacted by automatic closure. Compared to states and time periods without automatic closure, African American founded charters are 23.7 percentage points more likely to close after controlling for whether the founder is African American, automatic closure, and year opened.

[67] As a sensitivity test, we included state fixed effects in all models to observe how it effects our variables of interest. No variables of interest drop in their significance level. However, the interaction term in column IX becomes statistically significant at the 90% confidence level.

Table 16

Founder Race and Closure Regression Estimates

	I	II	III	IV	V	VI	VII	VIII	IX	X
African American Charter Entrepreneur	.1811*** (.0412)	.1539*** (.0406)	.0700 (.0445)	.0285 (.0545)	.0358 (.0562)	-	-	-	.0787* (.0429)	.0917** (.0436)
Automatic Closure	-	.1257*** (.0293)	.0857*** (.0304)	.0369 (.0308)	.0207 (.0421)	-	.0650** (.0280)	.0065 (.0388)	.0135 (.0434)	-
African American Charter Entrepreneur* Auto. Closure	-	-	.2365*** (.0887)	.1627* (.0983)	.1367 (.1111)	-	-	-	-	-
Proportion of African American Students	-	-	-	.0008 (.0005)	.0006 (.0006)	.0022*** (.0005)	.0016*** (.0005)	.0009* (.0005)	.0003 (.0006)	.0016*** (.0006)
Proportion of African American Students* Auto. Closure	-	-	-	-	.0006 (.0012)	-	-	.0017* (.0010)	.0014 (.0009)	-
Year Opened Fixed Effect	Y	Y	Y	Y	Y	Y	Y	N	N	Y
State Fixed Effect	Y	N	N	N	N	Y	N	N	N	Y
Obs.	767	767	767	649	649	717	717	717	649	649

*p<.10, **p<.05, ***p<.01.

Insofar as student and founder demographics are correlated, regression analysis indicates that both factors independently predict closure, although the finding is sensitive to model specification. Moreover, the estimates generally affirm that automatic closure disparately impacts both Black founders and schools that serve a larger share of African American students even when accounting for the other variable.

Discussion

Linear probability estimates support our four hypotheses. Charter schools are more likely to close when they educate more African American students and more likely to close when they were founded by an African American charter entrepreneur. Moreover, automatic closure mandates appear to disparately impact charter schools that serve more African American students or those founded by an African American charter entrepreneur.

Notably, recent research (Kingsbury, Maranto & Karns, 2020) indicates that African American charter leaders are less likely to be affiliated with charter management organizations or education management organizations compared to other charter leaders. Information about association with an EMO or CMO were not systematically or consistently recorded in the charter petitions that we accessed, so we cannot conclude to what degree that might explain the higher incidence of closure or disparate effect from automatic closure laws. Given that EMOs and CMOs have expertise in navigating state charter laws and regulations, it is plausible that schools affiliated with them are less likely to be closed down, and that this phenomenon may help explain the greater incidence of closure among charters founded by African Americans.

Our examination is limited by the fact that we did not distinguish between different states' automatic closure laws. Automatic closure provisions vary widely across states. While consistently providing one or more "tripwires," states with auto-closure provisions differ in

which tripwires they use. For example, several states require automatic closure if a school fails to meet certain academic performance expectations, but those expectations differ. Some states allow for discretion at the charter school level – allowing a charter school serving a highly challenging student body to set and meet performance standards realistic to the specific students being served. Other states require all charter schools meet uniform performance or growth standards, regardless of the specific student body served. Another auto-closure trigger, relating to charter school fiscal conditions, varies among the states from specific (i.e., a charter's failure to meet accepted accounting principles) to language that allows greater interpretation (i.e., a charter displays a "pattern" of unacceptable accounting practices). Thus, the condition of automatic closure is not the same from state to state, and further study could discern whether stricter auto-closure laws exacerbate the racially inequitable outcomes that we observe in our study.

Regardless of underlying cause, our observations about how student and founder demographics predict charter school closure should raise alarm among policymakers and advocates. For those who intrinsically value charter schools as institutions authentically rooted in and empowering the communities they serve, our findings---in conjunction with the observation that African Americans are disproportionately denied charters in the first place---raise concern about the degree to which charter schooling has strayed from its original mission. For those who view charter schools as a means to better outcomes rather an end unto themselves, our findings raise questions about whether charter school closures---especially those caused by automatic closure laws---benefit the students they serve. Concerns are elevated by the fact that African American staff tend to benefit African American students, often in ways not detected by test scores (Kingsbury, Maranto & Karns, 2020; works in Milner & Lomotey, 2014). In the same

vein, perhaps charters founded by African American charter entrepreneurs benefit African American students in ways not detected by test scores.

Our findings also invite fresh deliberation about the merits of automatic charter closure laws. As of 2011, approximately 1 in 5 charters that close do so because they fail to meet performance benchmarks (Consoletti, 2011). The topic of automatic closure laws is contentious even among pro-charter organizations, as it exposes a rift between the "market model" and "regulatory model" of charter schooling (Hess, 2004). The National Association for Charter School Authorizers "encourages states to establish in statute a process for automatic closure of underperforming charter schools" (NACSA, n.d.). The National Alliance for Public Charter Schools echoes that sentiment (Ziebarth, 2015), whereas the Center for Education Reform posits that foot voting by parents should ultimately arbitrate questions of school quality (Consoletti, 2011). Overall, the evidence base to support their differing positions is mixed. On one hand, a study in Ohio indicated that charter school students academically benefited in math when their schools are shuttered due to mandatory closure laws (Carlson & Lavertu, 2016). On the other hand, a national study indicates that more stringent charter regulatory regimes are not predictive of stronger achievement on National Assessment of Educational Progress (NAEP) exams (Wolf et al., 2021).

Clearly, this is an area on which more research is needed, so that policymakers can make better informed choices regarding how to best balance possible tradeoffs between two values underlying the charter school movement: accountability, and representation of under-served communities.

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Conclusion

Scholars cannot examine reform completely without understanding prior history. Neither can they contemplate reform and all its effects without considering the structure in which reforms occur. Education reformers too frequently proceed with research and recommendations while remaining unaware of the history and structure of the system they wish to reform. As a result, ambitious and well-intended reform efforts are frequently at least unsuccessful and at most resource-wasteful and even harmful to those they are intended to help. In this paper, I fill an important niche in education reform research. Here I offer explanations regarding how and why large, interconnected bureaucracies, once established, tend to protect themselves against change. I suggest that nothing else is as important in explaining structurally why decades of increased funding and various reforms implemented by well-intended policymakers have failed to improve either achievement or equity.

I have provided a summary of the American public school system's formation. I show how, from the country's individual community-led beginnings, myriad centripetal and other forces joined together to amass a monopolized, centralized, and layered bureaucratic structure I call the education centropoly.

Using historical, theoretical, and empirical analyses, I provide evidence that the educational centropoly has done much to segregate the country's disadvantaged students, trapping them not only in schools layered under levels of centralized bureaucracy and run by the centropoly's growing number of bureaucrats, but also in a uniform, inflexible system that serves student bodies that are anything but uniform. As a result, the educational centropoly has done little to help students of disadvantage.

Chapter 1 argues that public choice theory provides not only an adequate, but perhaps the most suitable basis for examining the centropoly. Chapter 2 provides a somewhat complete history of the system's formation, addressing how the underlying district system is both monopolized and segregated and how it became centralized at the state level. Chapter 3 shows how, upon realization that the underlying system did not serve low-income students, the federal government intervened with its most significant education reform ever – ESEA and its reauthorizations, including NCLB; yet, these reforms served mainly to grow the centropoly. In Chapter 3 I show empirically that ESEA is associated with large staff increases while improvement in achievement is nebulous. My later review of NAEP scores, including Sousa and Armour's (2016) synthesized review of ESEA Title I effectiveness studies, indicates disadvantaged students showed only scattered academic improvement.

If the system cannot improve, what of attempts to leave it? Can America's student body, including and especially disadvantaged students, find schools that give them not only an education, but a foundation in agency for their adult lives?

In Chapters 4-6, I turn to aspects of the charter schools reform movement as one avenue of exit from the centropoly but one that decidedly takes political support to achieve. Chapter 4 reveals how charter schools were born of both the public school system and the school choice movement. Importantly, the chapter also discusses various theories of how elected policymakers decide to make major (as opposed to incremental) changes. Once again, public choice theory imposes its rational self-interest basis. Taken to its logical extent, and – as evidenced empirically in Chapter 5 – considering the potential strength of the centropoly in at least the Right-to-Work states, it is little wonder that charter school laws vary so widely in quality and strength. Chapter 5, alluded to previously, shows a strong and statistically significant *inverse* association between

relative state and local traditional public school staff counts and charter school enrollments in Right-to-Work states. Chapter 6 provides another concerning aspect in the analysis of the centropoly's potential effect on exit from its stronghold. We show that the presence of automatic closure laws – likely a "compromise" to get charter school legislation passed – are significantly associated with disproportionate likelihood of closure of Black-operated and Black-attended charter schools.

It is not sufficient to say only that reformers are well-intentioned. I must add that those employed in the centropoly are not ill-intentioned. These bureaucrats are by-in-large not bad people; instead, they are normal people. This is a frequent theme of public choice-based work: when faced with a choice between the "greater good", as reflected in the public motives of an organization, and private benefits, as reflected in individuals' life considerations, public choice dictates that private motives win the contest. Reformers might be advised to stop trying to change the centropoly bureaucrats, who are rewarded for choosing based on their private motives, and instead work to create alternatives to the centropoly. Over time, those parents least well served by the centropoly will depart for those alternatives; those well-served will remain.

However, my research indicates at least two problems regarding this latter point. First, the centropoly works diligently to prevent alternatives from being created. In addition to Chapters 5 and 6 of this paper, which detail a mechanism as well as results of opposition by the centropoly, one need only read about school choice legislation around the country to gain an understanding of how centropoly bureaucrats, and those beholden to them, work to prevent such alternatives. Importantly, the system teaches an ideology of conformity to its values and to reverence for the system itself.

Second, preventing alternatives means those ill-equipped – or ill-disposed – to advance in the one-size-fits-all school system will continue to suffer. For thousands of students – including those disadvantaged by poverty or disability as well as those who choose to be different for myriad reasons – the centropoly severely limits their opportunities to flourish.

In researching this paper, I noted several areas in need of additional research. These include a concerning finding in Chapter 3. In examining the associations between ESEA reauthorizations and state and local public school staff (FTE) increases, I find that a state's population in poverty (logged) is highly statistically significantly associated with an FTE *decrease*. In other words, poverty is associated with a decrease in FTE, separate and apart from the law changes and the population control variable. This finding might simply reflect the fact that poverty increases and staffing might decrease during a state-level economic downturn. However, the finding seems to indicate that the poorest students might be served by fewer, not more, public school staff; hence, further research is necessary to determine the detail behind this association. In my Chapter 5 examination of the association between relative TPS staff counts and charter school enrollment, I note that an increase in a state's Black population is associated with a *decrease* in charter school enrollment. Given that this finding is contrary to expectations, but that in recent decades the Black population proportion in states has been decreasing, this could simply be an artifact of the relative population decrease. However, it might also represent evidence supporting a newly developing literature postulating that African American adults might oppose TPS alternatives for the rational reason that they (the adults) are successful in seeking and keeping employment in the TPS system. See, e.g., Carroll, Cheng, Maranto, & Teodoro (In Press).

I wish to study other aspects of this structural phenomenon as well. In Chapter 3, I mention concern with the accountability system created by NCLB, but accountability in general deserves much further study. I propose studying accountability from the perspective of examining how the centropoly itself prevents effective accountability – perhaps above and beyond that of a "regular" government service. Several scholars and I have begun to examine educational accountability by first comparing educational accountability research to general government accountability research, and I hope to continue that work. Of course, this research would be but a first step in evaluating whether the centropoly could ever be held accountable, given that it consists of a layered structure of interconnected bureaucracies. Additionally, there is much to be done in terms of the involvement of higher education – both in its own right, as well as its relationship to the centropoly in terms of educator training. One straightforward project would be to update the findings contained in Greene (2010) which detail the disproportionate growth in university administrative staff.

In the meantime, students continue to churn through the educational centropoly. Disadvantaged students, in particular, move through the system with little to show for their time. Scholars must continue to research the structural impediments to educational success, and they should do so with urgency.

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Appendices

Appendix A

Table

Elementary and Secondary Education Act: Initial Authorization, Reauthorizations, Amendments, and Flexibility Waiver

Year	Law/ Authorization	Brief Summary	Agencies/Boards Created
1965	P.L. 89-10	**Initial Enactment**; created Titles I-V; Title 1-A (Basic Grants, focused on concentrations of low-income students in LEAs) is primary focus. Also provides federal funding for library materials, "supplemental educational services", education research, and SEAs (state boards of education [34 CFR § 300.41]).	
1965	P.L. 89-313	ESEA-related amendments affecting impact aid districts; created new program to provide grants to State Education Agencies (SEAs) for education of children with disabilities ("SEA grants").	
1966	P.L. 89-750	**First reauthorization**; extended Title I-A program for two years (through FY 1968), modified Basic Grant program formula which expanded program size and increased cost; eliminated a grant program scheduled to go into effect FY 1967 so its approximately $400 million became available for Basic Grants. Added Title VI (Education of Handicapped Children).	Bureau for Education and Training of the Handicapped; National Advisory Committee on Handicapped Children
1968	P.L. 90-247	ESEA Amendments of 1967: extended Title I-A program through 1970, authorized use of advanced appropriations for ESEA programs; changed Basic Grant formula (minimally) and re-added a modified Special Incentive Grant formula (not funded until FY 1971). Added Title VII (Bilingual Education).	Advisory Committee on the Education of Bilingual Children
1970	P.L. 91-230	**Second reauthorization**: ESEA Amendments of 1969: extended most ESEA programs through FY 1973; modified Basic Grant program, expanded Special Incentive Grant program and included provision for Special Grants to Urban and Rural Schools - to provide additional funding to areas with high concentrations of disadvantaged children.	
1972	P.L. 92-318	Minor amendments (US Congress, Hearings 1972, 161).	

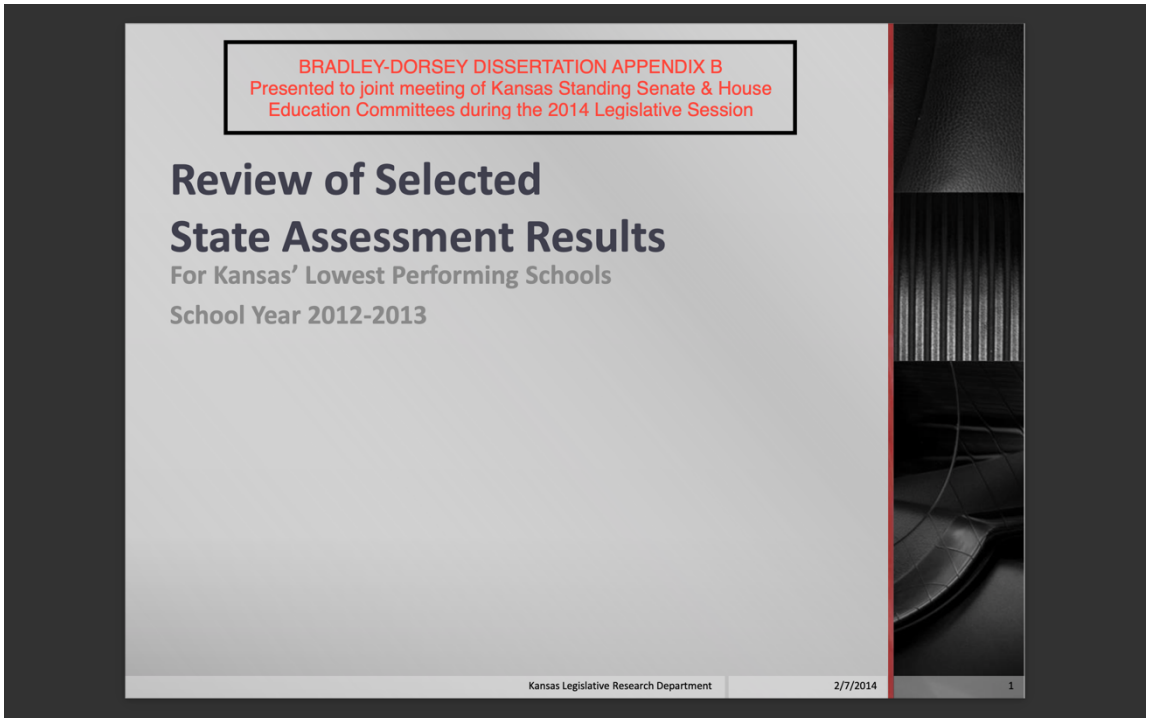
Year	Law/ Authorization	Brief Summary	Agencies/Boards Created
1974	P.L. 93-380	Made changes to the three Title I-A formulas (Basic Grants, Special Incentive Grants, and Special Grants), many of which reflected concern that the formulas favored urban over rural areas. Authorized research on bilingual education by the National Institutes of Health, provided for several categorical programs.	National Advisory Council on Bilingual Education, National Center for Education Statistics (NCES), Advisory Council on Education Statistics
1977	P.L. 95-112	(Carter) One-year extension of ESEA to study programs before next comprehensive reauthorization.	
1978	P.L. 95-561	**Third reauthorization**: Extended Basic Grants for five years, made changes to allocation formulas "generally benefitting urban areas." (CRS Report R44898) Added a new Concentration Grant program, providing supplemental funds to areas with especially high concentrations of low-income students. Converted Special Incentive grant program to federal matching grant program for state compensatory education expenditures beginning FY 1980. Dropped Special Grant program.	"[M]ultiple new offices, councils, committees, and commissions" (Collins, 2014, 18)
1981	P.L. 97-35	**Fourth reauthorization**: (Reagan) Education Consolidation and Improvement Act of 1981 (ECIA) - Largely unsuccessful attempt to convert ESEA programs into block grants, resulting in only one block grant which replaced a few small categorical education programs. ESEA Title I became Chapter I of the ECIA (Financial Assistance to Meet Special Educational Needs of Disadvantaged Children). Consolidated remainder of ESEA into ECIA Chapter 2 (Consolidation of Federal Programs for Elementary and Secondary Education). "[Increased] states' flexibility in controlling allocation of federal funds" (Collins, 2014, 18).	
1983	P.L. 98-211	Clarification and clean-up amendments.	
1984	P.L. 98-511	Changes to Bilingual Education Act, focus on English language learners (ELLs).	

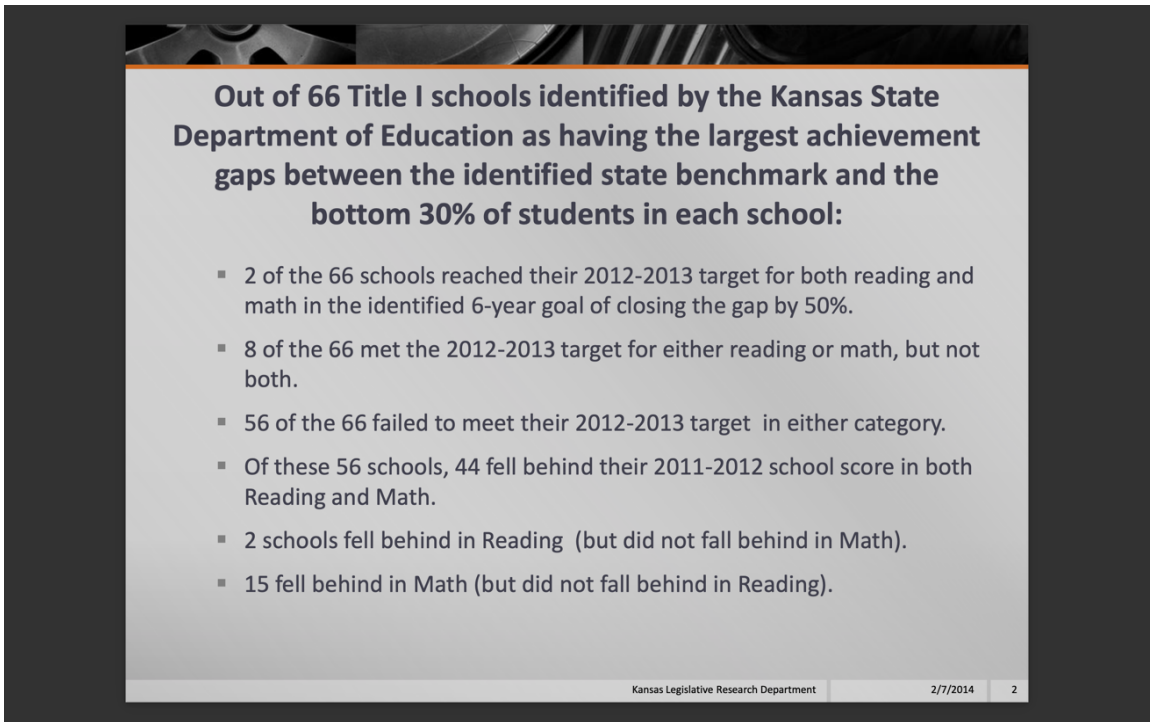
Year	Law/ Authorization	Brief Summary	Agencies/Boards Created
1988	P.L. 100-297	**Fifth reauthorization**: Generally extended programs through 1991. Repealed the ECIA, returned provisions back to ESEA, modified various ESEA programs, added several new programs. Reauthorized Title I-A as Title I, Chapter I-A. Updated Basic Grant formula, made significant changes to Concentration Grant formula in favor of rural areas. Authorized creation of national evaluation standards for Title I programs and required states to establish student performance standards for Title I students.	Upgraded NCES status (Collins, 2014, 18)
1994	P.L. 103-382	**Sixth reauthorization**: (Clinton) Improving America's Schools Act - changed existing Basic Grant and Concentration Grant formulas; added two new formulas - Targeted Grants and Education Finance Incentive Grants, both attempting to target Title I-A funds more effectively on concentrated areas of low-income students. Merged the SEA grant program for students with disabilities into the Individuals with Disabilities Education Act (IDEA), removed full funding requirements for SEA programs. Tied federal funding to requirement that state standards be consistent with national (Goals 2000) standards. (President Clinton pursued Goals 2000 in parallel with this reauthorization.) Required states to define "Adequate Yearly Progress" (AYP). States are permitted to determine “cut scores” – the test scores at which proficiency and other achievement levels are met.	
2002	P.L. 107-110	**Seventh reauthorization**: (G.W. Bush) No Child Left Behind Act - significantly changed underlying programs by requiring stepwise achievement improvement in states and accountability programs: state testing in math and reading for Grades 3 - 8; required states to meet AYP goals (established by each state individually, but 100% of students in each state were required to reach “proficiency” level in math and reading achievement by 2014), increased teacher education requirements, provided consequences for schools that fail to meet AYP goals. Maintained and made small changes to Basic Grant, Concentration Grant, and Targeted Grant formulas.	

Year	Law/ Authorization	Brief Summary	Agencies/Boards Created
2011	Offered by USDOE	**Flexibility waiver authorization**: "In September 2011, the U.S. Department of Education (ED) offered each State educational agency (SEA) the opportunity to request flexibility on behalf of itself and its local educational agencies (LEAs) and schools. This voluntary opportunity provided ... flexibility from certain [NCLB] requirements ..., in exchange for rigorous and comprehensive State-developed plans designed to improve educational outcomes for all students, close achievement gaps, increase equity, and improve the quality of instruction. Each SEA with an approved request that will expire at the end of the 2014–2015 school year may request a three-year renewal of ESEA flexibility, through the 2017–2018 school year."	
2015	P.L. 114-92	**Eighth reauthorization**: (Obama) Every Student Succeeds Act (Note: NCLB expired in 2007, but ESEA was not reauthorized until December 10, 2015.). ESSA revamped NCLB's language to be more permissive as to determining and measuring student achievement improvements	
Sources: CRS Report R44898, Updated July 17, 2017, titled "History of the ESEA Title I-A Formulas", retrieved 2/29/20 from https://www.everycrsreport.com/reports/R44898.html#_Toc488412031 ; Collins, C.A. (2014). READING, WRITING, AND REGULATIONS:A Survey of the Expanding Federal Role in Elementary and Secondary Education Policy, Mercatus Center Working Paper No. 14-24, August 2014, p. 18; USDOE, "ESEA Flexibility Renewal" (n.d.). Retrieved 3/2/20 from https://www2.ed.gov/policy/elsec/guid/esea-flexibility/flex-renewal/index.html ; and “Goals 2000 and ESEA” (n.d.). Clinton Digital Library. Retrieved 3-17-20 from https://clinton.presidentiallibraries.us/exhibits/show/education-reform/goals-esea .		

Appendix B

Selected Slides from Presentation to Joint Meeting of Kansas Standing Senate & House Education Committees – February 2014





"Adequate Yearly Progress"
Achievement Targets Set for NCLB Compliance
by the Kansas State Board of Education

AYP Targets for 2010-2014

Year	K-8 Reading	9-12 Reading	K-8 Mathematics	9-12 Mathematics
2010	83.7	81.3	82.3	76.4
2011	87.8	86.0	86.7	82.3
2012	91.9	90.7	91.1	88.2
2013	95.9	95.3	95.6	94.1
2014	100	100	100	100

www.swprsc.org/pages/uploaded_files/AYP_Q_and_A.pdf (Page 12)

Kansas State Assessment History:
NCLB and First Year of Waiver

Kansas Students Scoring Proficient and Above on State Assessments

SCHOOL YEAR	READING		MATHEMATICS	
	NCLB % Proficient Requirement	% Students Proficient and Above	NCLB % Proficient Requirement	% Students Proficient and Above
2005-2006	58.0	80.3	46.8	74.7
2006-2007	65.0	81.0	55.7	78.3
2007-2008	72.0	84.3	64.6	82.0
2008-2009	76.7	85.8	70.5	83.5
2009-2010	81.3	86.3	76.4	83.6
2010-2011	86.0	87.8	82.3	85.4
2011-2012	86.0	87.7	82.3	86.1
2012-2013	n/a*	85.7	n/a**	79.5

* Without the ESEA Flexibility Waiver, the goal would have been 95.9% for K-8 Reading and 95.3% for 9-12 Reading.

** Without the ESEA Flexibility Waiver, the goal would have been 95.6% for K-8 Mathematics and 94.1% for 9-12 Mathematics.

Source: KSDE Building Report Cards, All Students

Calculating API

An Example of Calculating the **Assessment Performance Index (API)** for a School:

Performance Category	Points per Category	# of Students	% of Students	Total Points
Exemplary	1000	55	21%	55,000
Exceeds Standard	750	90	35%	67,500
Meets Standard	500	82	31%	41,000
Approaching Standard	250	30	11%	7,500
Academic Warning	0	4	2%	0
Totals		261		171,000
Assessment Performance Index = 171,000 ÷ 261 = 655				

Kansas ESEA Flexibility Waiver Overview (PDF) *from* http://ksde.org/Default.aspx?tabid=567

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API Calculations for Sample School

Performance Category	Points per Category	# of Students	% of Students	Total Points
Exemplary	1000	55	21%	55,000
Exceeds Standard	750	90	35%	67,500
Meets Standard	500	44 → 82	31%	41,000
Approaching Standard	250	→ 30	11%	7,500
Academic Warning	0	→ 4	2%	0
TOTALS		261		171,000

* 30% x 261 = 78
* 4 + 30 + 44 = 78 Lowest Performing Students
* [4 x 0] + [30 x 250] + [44 x 500] = 0 + 7,500 + 22,000 = 29,500
* 29,500 / 78 = 378

The Kansas "State Benchmark"

"Once assessments have been aggregated across years and subjects tested, an API score is calculated for each building. Buildings are then ranked on their API scores. The API score for the building at the 70th percentile is set as the state benchmark (see Table 22 for actual API scores). This API score represents the minimum achievement attained by the top 30 percent of buildings in Kansas."

(ESEA Flexibility Waiver Request, Page 164)

Table 22

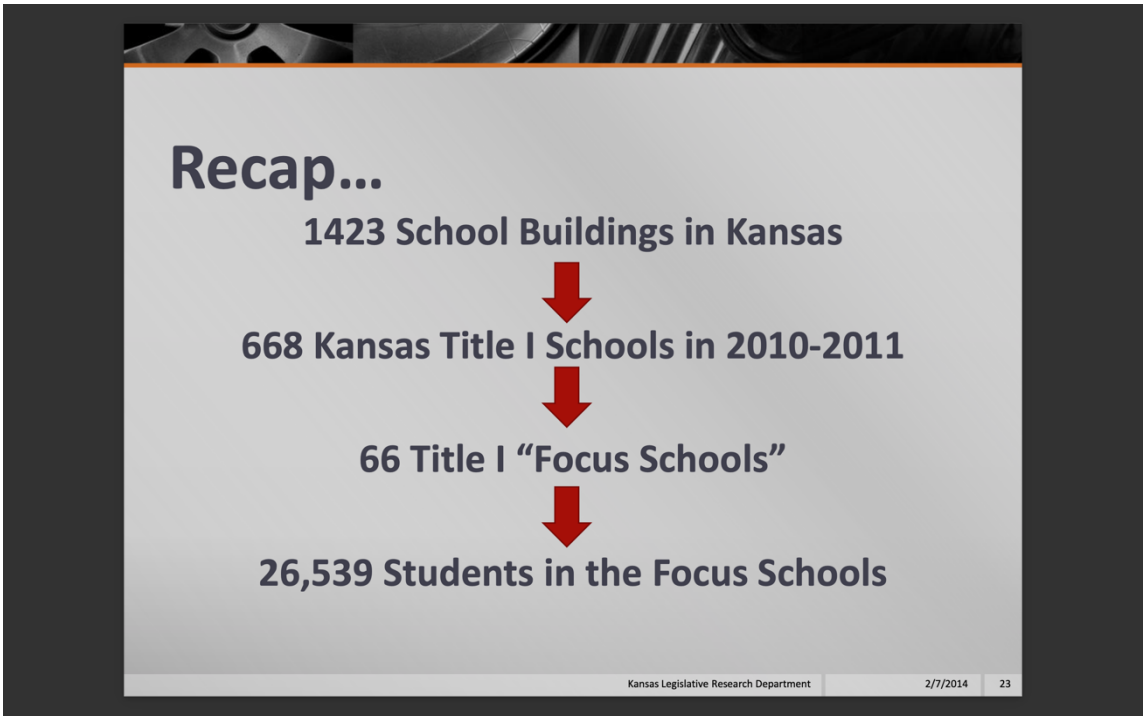
Retroactively Calculated State Benchmarks for Focus School Identification

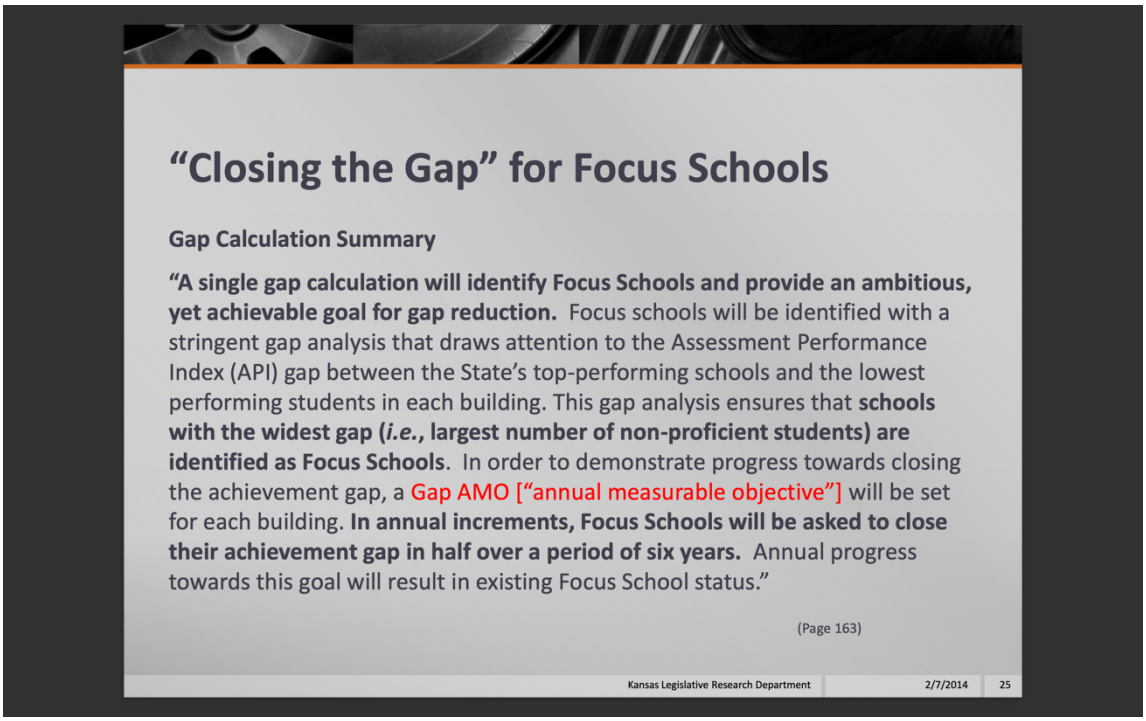
Year	State Benchmark
2004	545
2005	573
2006	606
2007	637
2008	659
2009	676
2010	698
2011	714
2012	724

	Reading	Math
KSDE State Benchmarks for 2012-2013:	**734**	**719**

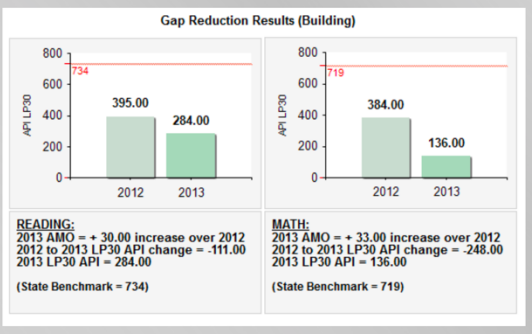
Focus Schools = "Gap" Schools

"**The Focus Schools are identified based on having the largest achievement gap….** Focus schools are identified by **comparing the Assessment Performance Index (API) score of the lowest performing 30 percent of students within each Title I school to an established state benchmark.** The Title I schools with the largest gap between the state benchmark and its lowest performing students are designated as focus schools."


Recap…
1423 School Buildings in Kansas
668 Kansas Title I Schools in 2010-2011
66 Title I "Focus Schools"
26,539 Students in the Focus Schools
Kansas Legislative Research Department
2/7/2014
23


"Closing the Gap" for Focus Schools
Gap Calculation Summary
"A single gap calculation will identify Focus Schools and provide an ambitious, yet achievable goal for gap reduction. Focus schools will be identified with a stringent gap analysis that draws attention to the Assessment Performance Index (API) gap between the State's top-performing schools and the lowest performing students in each building. This gap analysis ensures that schools with the widest gap (i.e., largest number of non-proficient students) are identified as Focus Schools. In order to demonstrate progress towards closing the achievement gap, a Gap AMO ["annual measurable objective"] will be set for each building. In annual increments, Focus Schools will be asked to close their achievement gap in half over a period of six years. Annual progress towards this goal will result in existing Focus School status."
(Page 163)
Kansas Legislative Research Department
2/7/2014
25

Sample Calculation:
Determining Gap AMO Results for a School



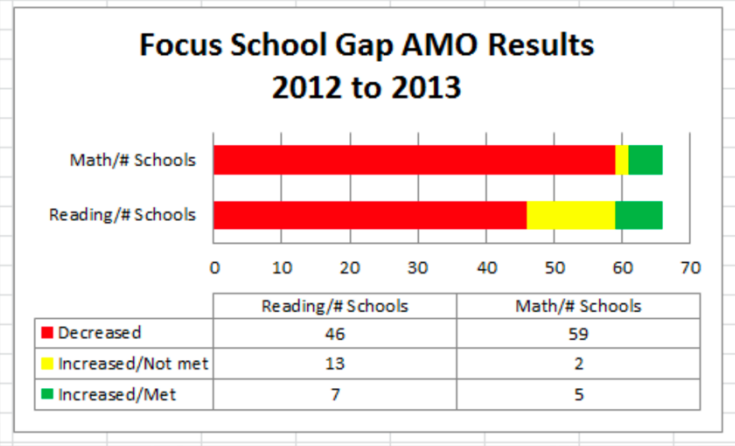
*** ([State Benchmark – 2012 API] / 2) / 6 = 2013 Gap AMO Targeted Increase**
*** ([734 – 395] / 2) / 6 = 28.25 (rounded to 30)**
*** 395 + 30 = 425 = Target 2013 API**
*** 284 = Actual API**
*** 395 – 284 = <-111>**
*** Target 2013 API Not Met/Decreased**

CONCLUSION: FOCUS SCHOOLS' FIRST YEAR

Out of 66 Title I Focus Schools (*i.e.*, identified by the KSDE as having the largest achievement gaps between the identified state benchmark and the bottom 30% of students in each school):

- 2 of the 66 schools reached their 2012-2013 target for both reading and math in the identified 6-year goal of closing the gap by 50%.
- 8 of the 66 met the 2012-2013 target for either reading or math, but not both.
- 56 of the 66 failed to meet their 2012-2013 target in either category.
- Of these 56 schools, 44 fell behind their 2011-2012 school score in both Reading and Math.
- 2 schools fell behind in Reading (but did not fall behind in Math).
- 15 fell behind in Math (but did not fall behind in Reading).

Conclusion: Focus Schools' First Year (cont.)



	Reading/# Schools	Math/# Schools
Decreased	46	59
Increased/Not met	13	2
Increased/Met	7	5

Addendum: Gap AMO Results for Priority Schools

TITLE I PRIORITY SCHOOLS

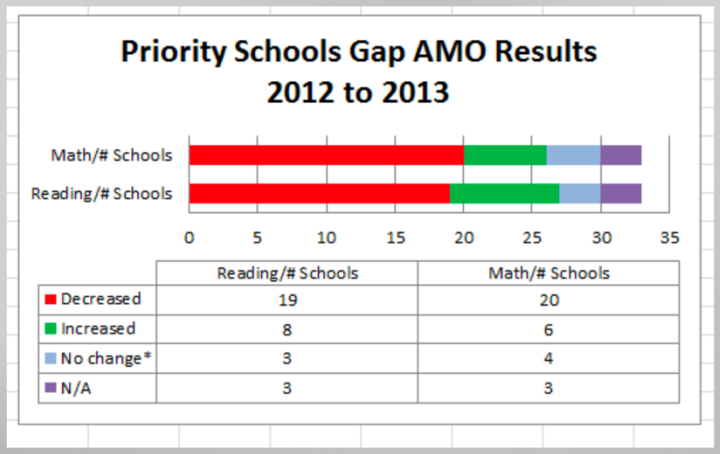
The Elementary and Secondary Education Act (ESEA) Flexibility Waiver requires states to identify Priority Schools. These schools are the Title I schools with the lowest levels of achievement and lack of progress. States must identify at least 5% of its Title I schools as Priority Schools; this is 33 schools in Kansas.

- Priority Schools are not required to achieve the "Closing the Gap" AMO.
- Priority Schools do calculate this AMO.

Priority Schools Gap AMO Results for 2013

- None of the 33 schools reached their 2012-2013 target API for both reading and math in the identified 6-year goal of closing the gap by 50%.
- 2 of the 33 met the 2012-2013 target API for either reading or math, but not both.
- 28 of the 33 failed to meet their 2012-2013 target API in either category.
- Of these 28 schools, 18 fell behind their 2011-2012 API in both Reading and Math.
- 1 school fell behind in Reading (but did not fall behind in Math).
- 2 fell behind in Math (but did not fall behind in Reading).
- (3 had no reporting of gap information.)

Priority Schools Gap AMO Results for 2013



	Reading/# Schools	Math/# Schools
Decreased	19	20
Increased	8	6
No change*	3	4
N/A	3	3

Appendix C

Table.
Using Annual % Change Variables in Place of Regular Proportion Variables

Ann Pct Change Charter Enr per 100 TPS	Model A: PP Exp Included; Priv Enr Excluded	Model C: Both PP Exp and Priv Enr Included
Ann. Pct. Change: TPS FTE/100	0.906	(8.753)
	(3.111)	(10.170)
Total Population (log)	-0.484	-3.004
	(5.922)	(10.740)
Pct Black Non-Hispanic	-0.132	-0.121
	(0.487)	(0.847)
Pct Hispanic	-0.441	-0.503
	(0.318)	(0.561)
Exp per Pupil (Adj. Reg'l Cost Difcs; log)	1.288	2.359
	(2.952)	(5.462)
2.Party: All 3 Dem. (Gov, Sen, Hs)	-1.091	-1.092
	(0.682)	(1.281)
3.Party: Split, Gov Different	-0.0276	-0.14
	(0.566)	(1.086)
4.Party: Split, Sen/Hs Different	-0.953	-0.756
	(0.712)	(1.342)
2004.year	-2.858***	
	(0.963)	
2005.year	-3.042***	-2.91
	(1.174)	(1.899)
2006.year	-2.585*	
	(1.346)	
2011.year	-2.483	-2.046
	(1.858)	(3.190)
2012.year	-2.392	
	(1.934)	
2013.year	-2.371	-1.819
	(2.045)	(3.500)
2014.year	-2.256	-1.822
	(2.152)	(3.681)
2015.year	-2.358	
	(2.249)	
2016.year	-2.339	
	(2.380)	
2017.year	-2.275	-1.433
	(2.417)	(4.160)
Private Enrollment per 100 TPS Students		0.251
		(0.248)
Constant	5.516	31.58
	(100.100)	(181.300)
Observations	421	226
R-squared	0.095	0.101
Number of States	42	42

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Appendix D

UNIVERSITY OF ARKANSAS

To: From:

Date: Action: Action Date: Protocol #: Study Title:

Martha L Bradley-Dorsey BELL 4188

Chair, Douglas J Adams IRB Expedited Review

02/25/2021

Review Not Required

02/25/2021
1906202350
Centropoly: The Structure of Educational Failures in the U.S.

Please keep this form for your records. Investigators are required to notify the IRB if any changes are made to the referenced study that may change the status of this determination. Please contact your IRB Administrator if you have any questions regarding this determination or future changes to this determination.